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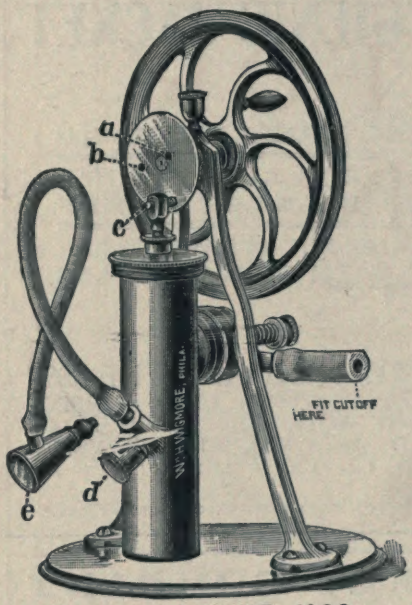

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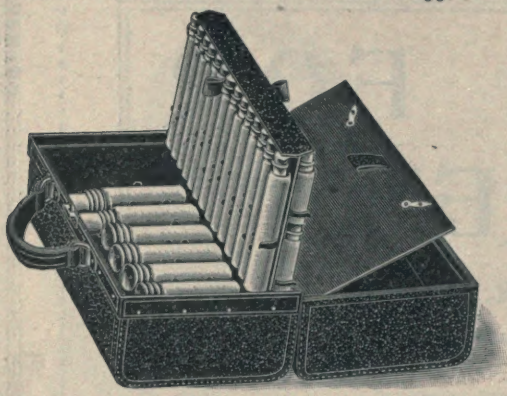

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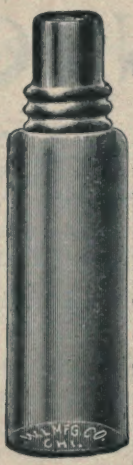

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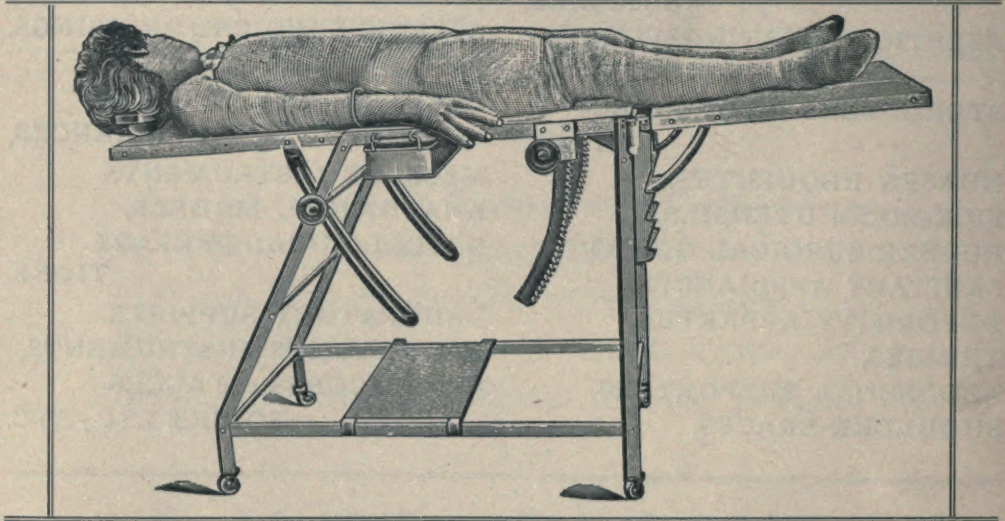

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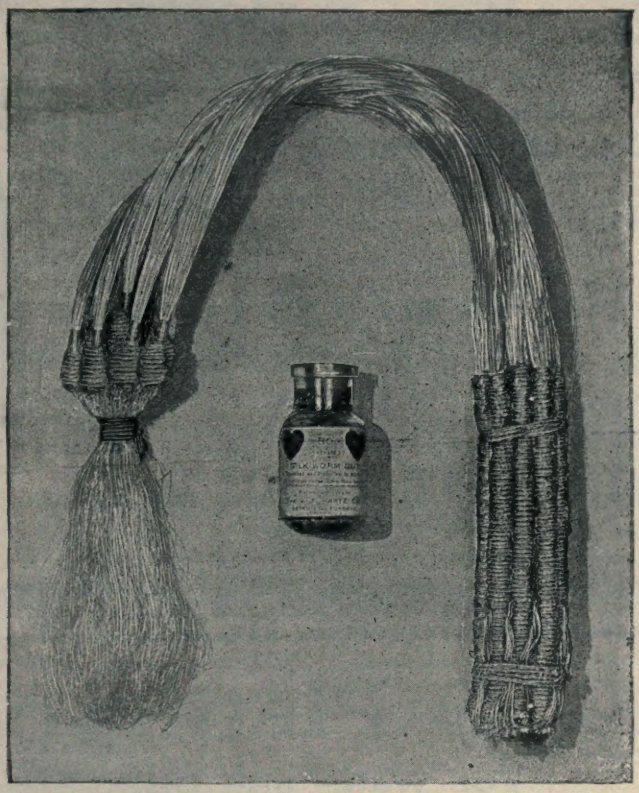

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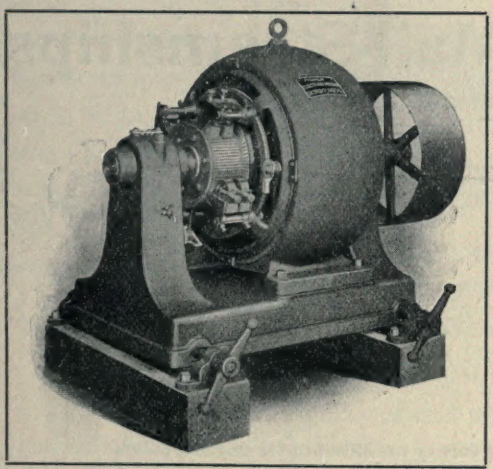

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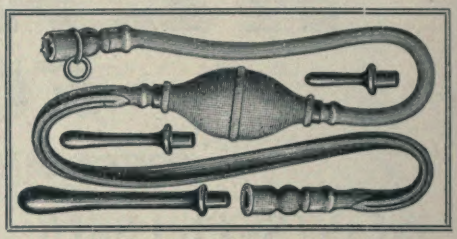

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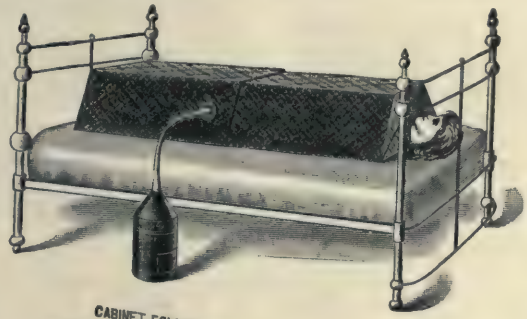

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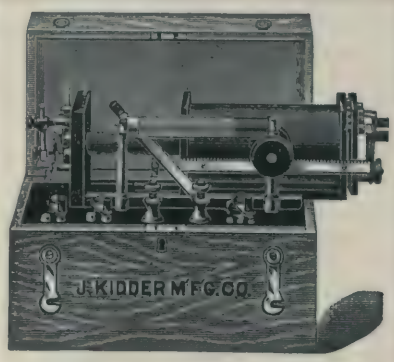

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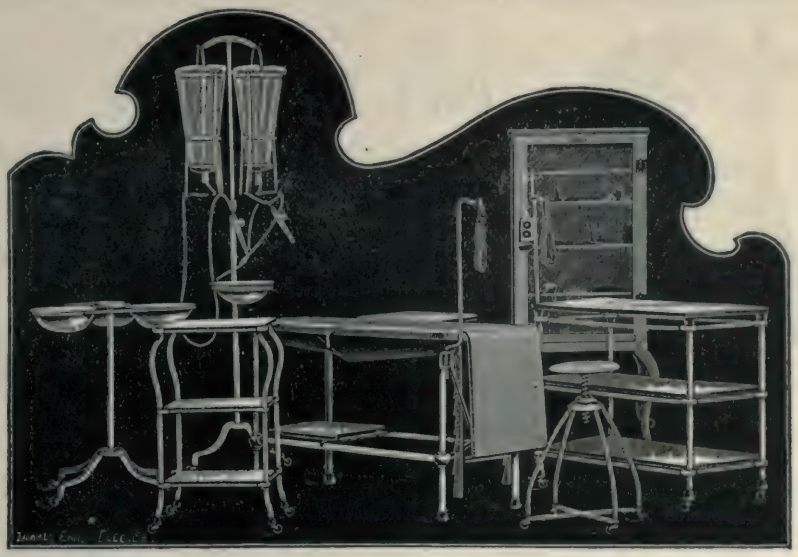

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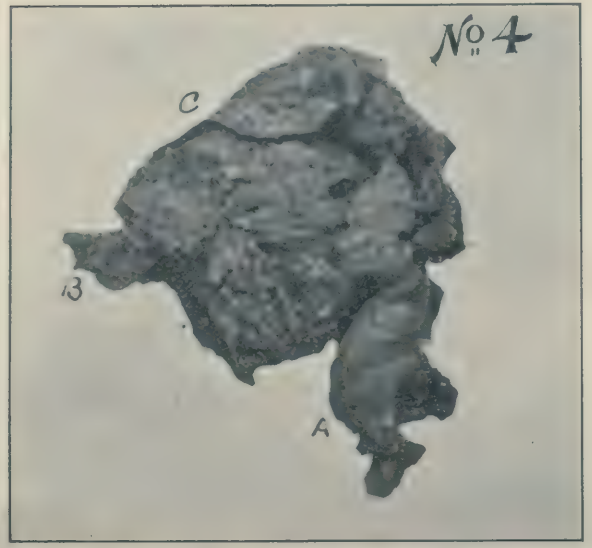
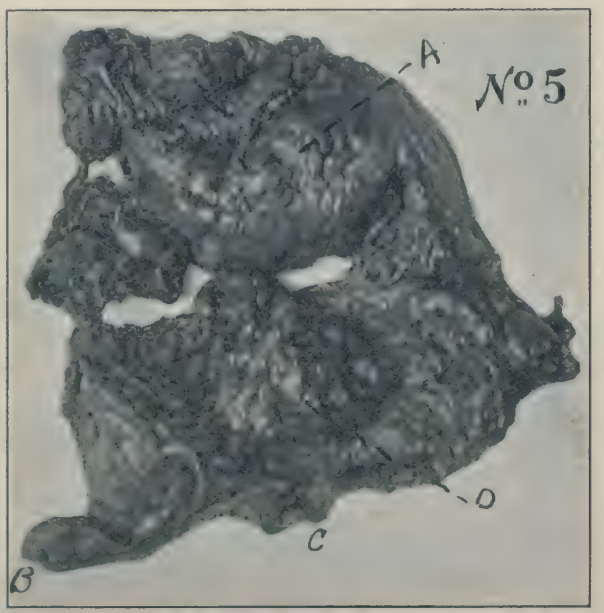
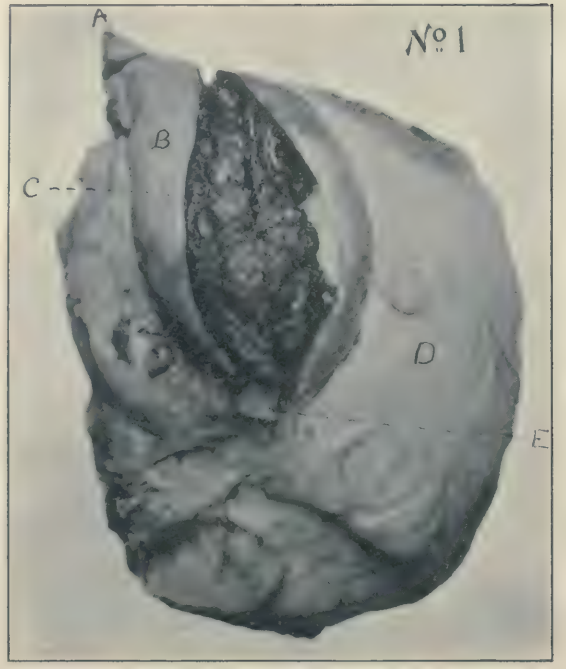


Ruptured Tubal Pregnancy—Foetus not found:—A. Ovary: B. Uterine end of Fallopian tube: C. Gestation-sac laid open: D. Membrane found in sac.



Ruptured Tubal Pregnancy:—A. Foetus, face to left, body twisted to right: B. Uterine end of Fallopian Tube: C. Gestation-sac laid open.



Unruptured Tubal Pregnancy With Small Ovarian Cystoma—Foetus not found: A. Uterine end of Fallopian tube: B. Gestation-sac laid open: C. Placental tissue and blood-clot within the sac: D. Ovarian cystoma: E. Fimbriated extremity of tube adherent to cyst-wall, and from which blood escaped into abdomen before operation.

Unruptured Tubal Pregnancy of Seventh Week: Thickened wall of tube laid open opposite insertion of umbilical cord:—A. Foetus: B. Insertion of cord: C. Small blood-clot—beginning of rupture; D. Uterine end of Fallopian tube.

DETROIT MEDICAL JOURNAL

Original Articles.

*ECTOPIC PREGNANCY.

BY H. W. LONGYEAR, M. D.

The relative frequency of the occurrence of ectopic pregnancy is evidently much greater than was imagined by the older observers. Pozzi said in 1886:

> The condition is somewhat rare. Out of sixty thousand women examined in the course of seven years in the clinics of Carl Braun and Spaeth, of Vienna, there were but five cases of extra-uterine pregnancy.

This proportion would seem to be too low, for Fasola (1883 to 1885) observed an equal number in only one thousand five hundred and sixty-five pregnancies, in multipara who had remained for sometime sterile.

Greater skill in diagnosis and early resort to laparotomy in doubtful cases, have proved this condition to be much more frequent than was supposed a few years ago. The statistics of the older writers are doubtless of little value to us now, because of the fact that very few cases were then diagnosed in the early stages. The patients included in Pozzi's statistics, are, evidently, only those that came into Braun's and Spaeth's lying-in-wards for confinement, hence were the only ones that had gone to full term, which as we now know would represent but a very small percentage of all the cases occurring in a given locality.

My recent personal experiences also tend to show that the accident is not very uncommon, as during the years 1896 and '97 I operated on seven, and diagnosed one other in consultation. During this period the statistics of the city of Detroit exhibited a total of about 8,800 births, which would make an average of the cases which came under my observation alone, about one in eleven hundred: Of course this does not take into account the (doubtless) considerable number of pregnancies which ended in abortion and hence were not recorded, but for statistical use the showing is probably as accurate and as useful as any that can be cited. And when it is considered that this number which came under personal observation and treatment during that time was probably only a fractional part of the grand total of the occurrences of this very dangerous accident, an approximate idea of its relative frequency can be imagined. Its frequency in large cities, by virtue of the great number of cases of diseased Fallopian tubes, is doubtless greater than in the country, where the ravages of the gonococcus, and other micro-organisms inimical to the health of the genital tract, are less in evidence.

Since my experience with this series of eight cases, which were reported in the *An-*

*Read before the Gynæcologic Section of the Michigan State Medical Society, May 15th, 1901.

nals of Gynæcology,[1] I have seen but three others, two of which were relieved by operation immediately after rupture, while one (the second) recovered spontaneously before rupture occurred.

Until recent achievements in abdominal surgery opened up this field, the pathology of ectopic pregnancy was very confused and but poorly comprehended. To Mr. Lawson Tait, is chiefly due the honor of straightening out the tangle and giving a clear and seemingly true statement of the conditions encountered. His classification is as follows:

"Scheme of Ectopic Gestation in tubo-ovarian tracts:—

"Ovarian.—Possible, but not proved:

"Tubal,—in free part of tube.—and is:—

(A.) Contained in tube, up to fourteenth week, at or before which time primary rupture occurs, and then the process of gestation is directed into:—

(B.) Abdominal or intra-peritoneal gestation, uniformly fatal unless relieved by abdominal section, primarily by hæmorrhage, secondarily by suppuration of the ruptured sac and peritonitis:

(C.) Broad-ligament or extra-peritoneal gestation:

(D.) May develop in broad ligament to full time, and be removed at viable period as a living child:

(E.) May die and be absorbed as extra-peritoneal hæmatocele:

(F.) May die, and the suppurating ovum discharge at or near the umbilicus, or through the bladder, vagina, or intestinal tract:

(G.) May lie quiescent, as a lithopædion:

(H.) May become abdominal- or intra-peritoneal gestation by secondary rupture:

In tubo-uterine or interstitial gestation, the fœtus is (A) contained in the part of the tube embraced by uterine tissue, and, as far as known, is uniformly fatal by intra-peritoneal rupture (as B) before the fifth month.[2]

Tait believed that spermatozoa never pass above the uterus, excepting in cases of disease of the Fallopian tubes where the normal action of the ciliated epithelium covering this mucous membrane is interfered with. He also believed that ectopic pregnancy always begins in the tube, and when found elsewhere its situation is the result of transplantation after rupture of the latter.

L. E. Frankenthal[3] made extensive studies of extra-uterine pregnancy occurring twice in the same patient, and is firmly of the opinion that, in the human female, impregnation occurs normally in the tubes for the following reasons:

Living spermatozoa have been found in the tubes:

The customary site of impregnation in mammals has been proved to be in the tube:

The ovum is impermeable after it has graduated the outer third of the tube:

The motion of the cilia in the tubes is toward the uterus:

That of the muscular fibres is toward the fimbria, and:

The motion of the uterine cilia is toward the tubes:

Impregnation occurring in the tube, any mechanical obstruction, or certain pathologic conditions, will prevent the advance of the ovum to the uterus.

Cases of supposed ovarian pregnancy are, in my opinion, usually the result of transplantation of the ovum during its slow expulsion from the tube through the fimbriated extremity. Expelled in this way the ovum may become attached to the omentum, intestines and other portions of the abdominal viscera, there develop, and at the time of abdominal section or post mortem, the tube shows no sign of the pregnancy having begun therein. The seventh case of tubal pregnancy, operated on by myself, might have terminated in that manner, as the five weeks ovum was found situated in the outer third of the tube, the infundibulum dilated to the diameter of about five millimetres, while a small blood clot, with the ovum close behind it, was presenting.

Some authentic cases of ovarian pregnancy have of late been reported: J. Oliver[4] gives the details of a case in which the full-grown child was found in a sac with a well-defined pedicle, which sac was ligated after the manner employed in dealing with an ordinary ovarian cyst, and the sac containing fœtus and placenta remained intact. The tumor, which was the right ovary, was found to be a closed sac, containing a full-grown fœtus with its cord and placenta. No breach in the Fallopian tube of the same side could be detected, and the appendages on the opposite side were normal.

The point of rupture of the tube is usually, if not invariably, at the site of the implantation of the placenta, and is caused by weakening of the muscular walls through separation of the fibres by the villi of the chorion, which rapidly insinuate themselves between them. When rupture occurs upward, the ovum is expelled into the peritoneal cavity, and free, unrestrained, and immediately dangerous hæmorrhage will result; but if the implantation of the placenta is in such a position as to direct the rupture downward, the rent may appear between the folds of the broad ligament, so that the contents of the tube, along with the hæmorrhagic blood, will be forced into this confined space (the resistance of the walls of the ligament usually being sufficient to limit the bleeding), and cause the formation of a firm clot that results in a well-defined, extra-peritoneal, pelvic hæmatocele.—This is not, usually, immediately dangerous, save when secondary rupture through the walls of the broad ligament occurs, when it assumes the character of an upward rupture. This latter gives rise to the class of cases in which the fœtus survives and develops to full time, though in a majority of instances it survives for less than the normal time of gestation. Following the death of the fœtus, the amniotic fluid is absorbed causing a shrinkage of the tumor, after which the soft parts of the fœtus may be absorbed, and a calcification of the remaining parts take place resulting in formation of a lithopædion; or suppuration within the sac may occur and point and discharge at or near the umbilicus, through the bladder, vagina, or intestine, the bones of the fœtus escaping with the pus and other debris by a slow process of ulceration. The reason for the discharge of the fœtal remains into these organs, rather than into the peritoneal cavity, is an interesting one, and explained by the anatomical position of the ovum after it passes out of the Fallopian tube. By passing within the folds of the broad ligament it becomes sub-peritoneal, and as development progresses it gradually separates the peritoneum from the pelvic floor, abdominal walls, bladder, uterus and rectum, and these parts being thus unprotected, a solution of continuity of their tissues is readily accomplished by the presenting parts of the contents of the sac. If the walls of the sac (composed of the broad ligament) should give way to the rapid distension caused by the growth of the ovum, and discharge the fœtus into the abdominal cavity, the sub-peritoneal pregnancy would be changed into a true abdominal pregnancy, and if the patient survives the resultant shock and hæmorrhage, the fœtus may develop to full term in that position.

Tait holds the tubo-uterine or interstitial form as the most dangerous, declaring such uniformly proves fatal by intra-peritoneal rupture before the fifth month.—A case of my own was of this variety, and fortunately saved by prompt section. Many cases of this kind doubtless occur, in which the ovum is situated so close to the uterine orifice of the tube that it is extruded into the uterus and thereby becomes a normal pregnancy, or probably more frequently is discharged as a normal abortion; yet Tait does not believe this possible, and says he has never seen a case in which this form of rupture could be demonstrated. Such a diagnosis must of necessity be theoretical, as the contraction of the uterus would doubtless prevent any dangerous symptoms.

Under some conditions a cornual pregnancy may result in the same disastrous manner as the tubal variety. H. Briggs[5] reports a case of pelvic hæmatocele due to a rupture of a pregnancy in a rudimentary uterine horn, wherein operation was followed by cure: He remarks that a cornual pregnancy is liable to any of the diseases or accidents of the normal or ectopic pregnancy.

Given a well-developed uterine horn and pregnancy, a natural labor may result; the uterine horn may be styled in every respect a normal horn. Given an ill-developed uterine horn and a pregnancy within it, and the

obstetric dangers are increased. It is well known that pregnancy in a rudimentary horn has the same tendency to rupture as tubal pregnancy, though the rupture usually takes place at a later period of gestation in the former than in the latter.

The consideration of the diagnosis of ectopic pregnancy should be under two heads, viz.: *Before* and *After Rupture.*

The diagnosis before rupture is, commonly, very difficult, and as a matter of fact very rarely accomplished. Tait practically says it cannot be done, or that failure will result so often as to practically amount to the same thing. One of the obstacles in the way of early diagnosis is, in the large majority of cases, no evidences exist that induce the patient to consult the physician, the first symptom usually being that of primary rupture. The first point to be determined is, that the patient is pregnant, for if this can be done the question is simplified and concentrated on the point of differential diagnosis. But, even then, it is not always a simple matter, for as the very nature of the cases suspected usually pre-supposes a history of previous tubal disease, the discovery of an enlarged tube is not conclusive, as it may be a pyosalpinx, a hydrosalpinx or an inflammatory deposit in and around the tube, as the result of an old attack of pelvic inflammation. As most cases of suspected, non-ruptured, ectopic pregnancy are found on thorough examination to be normal, exploration of the uterine cavity is not justified, excepting in instances where there are urgent symptoms demanding it, and then it must be understood that the risk of abortion attends the same. In case of interstitial pregnancy, the differential diagnosis previous to rupture is almost an impossibility. In the case operated on by myself, the patient experienced no symptoms other than those common to normal pregnancy up to the time of rupture, and as she had several successive slight ruptures preceding the final collapse, opportunity was given, and she was examined by two competent general practitioners, neither of whom suspected anything more than a normal pregnancy with threatened abortion: The apparently full uterus could be felt, as well as tubes and ovaries on either side in an apparently normal condition.

About the only way in which even an approximate diagnosis can be had, is by exclusion: Given the case of a woman at a fruitful age, with pelvic trouble of any kind, the first thing essential is, that the examiner should have in remembrance the possibility of ectopic pregnancy. How often has the diagnosis of some rare form of disease flashed upon the mind merely by hearing or reading of its name, and the case that has been a source of worry and that has puzzled beyond measure, is suddenly made clear as though by revelation! The physician who never anticipates an ectopic pregnancy until the nature of the symptoms are so unequivocal as to force the thought, can never expect to diagnose a case before rupture, and he will be fortunate if he recognizes the condition even after the symptoms of rupture have occurred. Theoretically, I believe Hegar's sign of normal pregnancy to be valuable in differentiating between a uterus that is filled by a soft fluctuating mass (such as is present in pregnancy) and one that is empty; besides the presence of fluctuation in the body of the uterus, the sign includes a characteristic softness, pliability and thinning of the lower segment of the organ,—that is to say of the part immediately above the insertion of the sacro-uterine ligaments. By depressing the uterus it is possible to distinguish the rigid surface of the upper portion from the lower, and the softness is so marked that one can imagine the cervix to be simply in contact with a pelvic or abdominal tumor. This group of symptoms was demonstrably absent in my cases, excepting the one of interstitial pregnancy where I was not able to make a satisfactory determination of the conditions. The sign becomes very marked at the third month, but is present, although in lesser degree, previous to that time. If a constant flow of blood be present, and especially if shreds of decidua are expelled, rendering the act jus-

tifiable, then the uterus should be examined. Given a purple color of the cervix and vagina with elevation of vaginal temperature at or above 99.7°, Fhr., in a woman otherwise healthy, whose uterus is empty, and who gives a history of unusual menstrual disorder—either complete amenorrhœa or menorrhagia,—with other usual symptoms of gravidity, the presence of ectopic pregnancy should be suspected; and if in addition to these indications a small tumor in one of the Fallopian tubes can be demonstrated, the diagnosis is fairly certain.[6]

Diagnosis during or after rupture should rarely offer any difficulties, providing, again, that the examiner has ectopic pregnancy in mind. If he has never seen, heard of, or read of a case of the kind, he surely will fail to make a diagnosis; but if his mind has ever dwelt on this peculiar accident, he should not fail to at least suspect the true nature of the trouble.—The symptoms of rupture are very marked, and so alarming as to induce the patient to hurriedly summon the physician. In considering the diagnosis of this stage it will be of value to glance again at a bit of the pathology, and for the purpose I quote from Tait:

A tubal pregnancy is bound to rupture; in the free part of the tube it rarely delays beyond the twelfth week and may be as early as the fourth; in the interstitial part of the tube from the third to the twentieth week. This rupture takes two directions:—Into the peritoneum which is the fatal form, and: Into the cavity of the broad ligament. The latter, or extra-peritoneal, alone gives all the cases which go on to the period of viability, all the lithopædia, all the suppurating cysts discharging into the bladder, rectum, vagina and abdomen; and also all cases which by secondary rupture of the broad ligament into the peritoneal cavity are called "Abdominal Pregnancies."[7]

Also, I quote the following from Strahan:

We will first consider the symptoms and diagnosis of the more fatal form, that caused by intra-peritoneal bleeding. The injury sustained, as Barnes says, is compound: There is the traumatic violence attending the rent, and the sudden impression upon the sympathetic centers producing shock, and the hæmorrhage. The symptoms are also two-fold: Shock causes collapse, shown by loss of bodily heat, loss of all strength and energy, almost imperceptible pulse, intense paleness, vomiting, and often in a very few hours, death. To this group of symptoms, Barnes applies the term "Abdominal Collapse," and the name is a good one. These symptoms ensuing on rupture are so characteristic that violence and poisoning are the only things with which it will be easy to confound them. The whole thing usually happens so suddenly—some slight exertion, such as stooping at work,—when a violent pain seizes the woman, she becomes cold, pulseless, collapsed, and is so often found dead or dying that suspicions of violence are often aroused. Sometimes, especially if the unruptured ovum sticks in the rent in the tube, the hæmorrhage may not prove immediately dangerous. The woman recovers from the symptoms of shock, she may have no further attacks for a few days, when bleeding suddenly recurs with another attack of pain and fainting. This may be repeated several times before death occurs, but unless surgery steps into her relief, death is all but certain. Some cases are so violent in the first onset that there is hardly time to do an operation, but, as a rule death does not occur for several hours.[8]

The termination of the quotation would lead one to believe that fatality usually follows closely upon rupture, whereas, as a matter of fact, I believe that only a small percentage of the cases die so soon, death usually being a matter of days, and sometimes of weeks, through slow hæmorrhage.

Peritonitis is not usually an accompaniment of the rupture and hæmorrhage, even when the latter has existed for weeks and the abdomen filled with blood-clots of various ages. Tait is very clear on this point and quotes Parry at length, in support of his position. The latter says:

Peritonitis so rarely follows rupture of an extra-uterine, gravid cyst, that the possibility of its occurrence need not be taken into consideration in the decision of any question relating to prognosis or to treatment.[11]

Two of my cases illustrated this point, as hæmorrhage in both instances had progressed for several weeks, and though the abdomen was full of blood, yet no peritonitis developed.

If a women of fruitful age is suddenly seized with severe pain in the lower part of the abdomen, attended by faintness, from which she does not readily recover as with ordinary faintness; with weak, rapid pulse; pale, anxious countenance with normal or sub-normal temperature; the previous history of the case and a physical examination are hardly necessary to complete the diagnosis. But, if in addition to these symp-

toms of shock and hæmorrhage, a history of probable pregnancy, of discharge of decidua and irregular menstruation, can be obtained, and an enlargement of either Fallopian tube be demonstrated, the diagnosis, of course, is positive. These cases, sometimes, are diagnosed for several days or even weeks after the primary rupture, when in addition to the symptoms enumerated, there will be, usually, a slight rise of temperature, some tenderness of the abdomen with more or less distension and, by percussion, with the patient in different positions, free fluid may be demonstrated in the abdominal cavity. Hæmatocele in the posterior *cul de sac* cannot be detected in these cases of intra-peritoneal hæmorrhage, as the fluid is free and not held any where, *en masse,* so as to form a tumor, as is the fact in cases of hæmorrhage into the broad ligament.

The symptoms attending extra-peritoneal rupture of the tube—that is, when the ovum and blood are forced downward into the cavity of the broad ligament—are much the same as those manifested by an *intra*-peritoneal rupture, but are usually less marked or less severe—excepting in rare instances, —and the patient usually reacts from the shock within a few hours, and a distinct tumor, formed by blood collected within the walls of the broad ligament, can be felt on vaginal examination. If the ovum dies after a rupture of this kind, the fluid portion of the tumor is soon absorbed, leaving a hard rounded mass which, in time, usually becomes absorbed but, occasionally, gives rise to the formation of abscess, or occasions so much irritation as to demand removal. If the rupture is into the left ligament, while it is becoming distended with blood the action on the rectum (doubtless from pressure), occasions severe tenesmus: This is known as Tait's symptom of pelvic hæmatocele in left broad ligament.[9] If the walls of the broad ligament prove too weak to bear the strain and pressure of the blood that is being pumped into the cavity, it gives way, and we then have the symptoms attending intra-peritoneal bleeding, which form of rupture it thus becomes.

In the early diagnosis of ectopic pregnancy I would warn the inexperienced against allowing their conclusions to be confused by the social conditions of the patient. If symptoms of rupture are present, with the characteristic signs of internal hæmorrhage, speedy relief is demanded, and a diagnosis in accordance therewith, without discussion of cause will, in most instances, suffice to obtain consent to prompt operation.

The diagnosis of ectopic pregnancy after the fœtus has survived the rupture and progressed in its development, is often very difficult; but the history of symptoms of rupture is a very valuable link in the chain of evidence in these cases, and when present should be of great assistance in arriving at a diagnosis. If the fœtus is dead at the time of examination, there is often no way of making a positive diagnosis between ectopic pregnancy and any other tumor, as symptoms induced by the latter often simulate those of the former. When *ballottement* can be done, it constitutes a very valuable sign; it is affirmative shortly after the death of the fœtus, but becomes negative within a very short space of time owing to absorption of the liquor amnii. If the fœtus is living so that the heart-sounds can be heard, or its movements felt, and the uterus can be demonstrated to be empty, the diagnosis is, of course, comparatively simple. When the fœtus lives until full term, and then dies, there is, commonly, a pretty reliable history of pregnancy, by which, with the aid of physical signs, the diagnosis may be quite confidently made. In cases where several years have elapsed after the death of the fœtus, much difficulty may be experienced in arriving at a correct diagnosis, and it is in such cases that every effort should be made to obtain the minutest details of history and evidence: There will usually be a history of supposed normal pregnancy followed by symptoms of rupture more or less obscure; then spurious labor

obtaining for several days, soon after which the movements of the child (if they have been felt) ceased, and a diminution in the size of the tumor (absorption of liquor amnii) observed. Such a history coupled with the physical signs of a tumor apparently occupying the cavity of the broad ligament, should be sufficient basis for a diagnosis.

Before the year 1883 there was, practically, no systematic treatment for ectopic pregnancy, operations being recommended only in cases of advanced gestation; and the mortality was certainly 100 per cent. in the intra-peritoneal ruptures, and no one knows how high in the other variety. In 1883, Tait performed his first operation on a case of recent intra-peritoneal rupture, which was a dismal failure. The history of the initiation of correct surgical treatment of this malady, which had been so terrible fatal up to this time, is of such vital and absorbing interest that I give it in Mr. Tait's own words:

> In the summer of 1881 I was asked by Mr. Hallwright to see with him in consultation a patient who had arrived by train from London in a condition of serious illness, that illness having been diagnosed by Mr. Hallwright as probably hæmorrhage into the peritoneal cavity from a ruptured tubal pregnancy. The patient was blanched and collapsed, the uterus was fixed by a doughy mass in the pelvis, and there was clearly a considerable amount of effusion in the peritoneum, but no distinct tumor could be felt above, and I agreed with Mr. Hallwright as to the nature of the lesion. This gentleman made the bold suggestion that I should open the abdomen and remove the ruptured tube. The suggestion staggered me, and I am ashamed to have to say I did not receive it favorably. I saw the patient again in consultation with Mr. Hallwright and Doctor James Johnson, and again I declined to act upon Mr. Hallwright's request; and a further hæmorrhage killed the patient. A post mortem examination revealed the perfect accuracy of the diagnosis.
>
> I carefully examined the specimen which was removed, and found if I had tied the broad ligament, and removed the ruptured tube I would have completely arrested the hæmorrhage; and I now believe had I done this the patient's life would have been saved.
>
> After this terrible lesson, I did not see another example of ruptured tubal pregnancy, or one which I suspected to be of that nature, until called to Wolverhampton by Mr. Spackman, on January 17th, 1883. There could be no doubt as to the nature of the case, and of it Mr. Spackman was fully aware before I was summoned. The patient was already dying of hæmorrhage, and I at once advised abdominal section. The fœtus, about the twelfth week, was lying amongst masses of clots and coils of intestine, and to these latter the partially extruded placenta had obtained new attachments. These I cautiously separated, causing fast and copious bleeding from every point. I wasted much time in trying to stop this hæmorrhage, so that by the time the operation was finished my patient was practically dead; we got her to bed alive, and that is all that can be said. I thought much about this case for it was a bitter disappointment; where I believed a triumph would be scored, only a failure resulted. The conclusion was speedily arrived at, that I had blundered—that the true method of operating in such a case was to separate adhesions rapidly, regardless of bleeding, and make at once for the source of hæmorrhage, the broad ligament, tie at its base, and then remove the ovum, debris, and clots at leisure. This I have now done in thirty-nine cases with but one death, and I think I may fairly say that I have really achieved a surgical triumph.[10]

Following on this pioneer work of Mr. Tait there are now large numbers of successful cases reported, all over the world, and the question as to abdominal section being the correct and only method of treatment is no longer a matter of discussion or doubt.

The operation for tubal ectopic pregnancy, at the time of (or soon after) rupture, if the condition is uncomplicated by other form of pelvic disease, is one of the simplest, and consists, briefly, in: Abdominal incision, immediate freeing of adhesions of the impregnated and ruptured tube with the fingers, without paying any attention to blood in the abdomen—excepting so far as removal of the latter is necessary to secure a clear field for manipulation,—tying off the broad-ligament attachments of the affected tube, and removing (usually with the ovary), thus instantly stopping all hæmorrhage; then to remove only the blood and clots which are in the pelvis, and that require but a few moments to dispose of; finally, close the abdomen with or without drainage as the individual case demands.

The problem of removal of extravasated, intra-peritoneal blood, the clots of which will often be found inextricably entangled in the folds of the omentum and coils of intetines, is an important one, the solving of which I have accomplished, at least to my own satisfaction: Beyond what can be quick-

ly removed around the seat of operation, this exudate is best left within the abdomen, when the peritoneum will rapidly absorb it. Much precious time—which usually contains the valuable element of life to the patient,—may be lost in the manipulations necessary to completely empty the abdominal cavity of this exudate. If the douche is employed, the clots will mostly remain, and the unnatural douche-water only replaces the natural serum that is washed out, so that very little is gained in that way; and to remove the clots with fingers and sponges is a slow process which is liable to do much damage by the excessive manipulation required. In my first case I attempted to make a "clean job" of it by these methods, and I lost the only patient of the nine thus far operated upon; while in the other eight, the method which I advocate was followed by most satisfactory results. The teaching on this point, heretofore, has usually been to "make a clean toilet of the peritoneum," which, in regard to the removal of blood resulting from an operation, is no doubt "good surgery"; but is in my opinion constitutes the very *worst* when applied to ectopic pregnancy and an exsanguined and collapsed patient. In regard to this detail of *technique,* Tait is curiously silent, as in fact he is regarding operative *technique* generally. Keith advises washing out the clots with warm water:[12] Pozzi simply says:

> Schwartz recommends in this condition that we remove the whole of the blood, not placing any dependence upon the absorptive power of the peritoneum but rather, in the cases of profuse hæmorrhage, fearing the depressing influence upon the woman's system of the accumulated clots.[13]

The best time for operation is an important point and has been widely mooted and discussed, pro and con. The following queries, will serve to outline my personal opinions:

Is it best to operate at once if the patient is in collapse, or is it more wise to wait for reaction?

In a given case, can it be determined if it is one in which reaction will occur, or is it one in which rapid hæmorrhage will supervene and death occur ere reaction takes place?

Is it good surgery to wait for reaction before tying a bleeding vessel in the abdomen, when it would be considered very bad surgery to wait for such a reason before stopping a hæmorrhage outside the abdomen?

If I had waited for reaction to occur, I believe my case of interstitial pregnancy would have been lost—the variety that, according to Tait, almost invariably die before assistance can intervene.

During the preparation for operation, the cases should be stimulated and supported by the use of strychnine, nitro-glycerin and digitalin, employed hypodermatically; and, before and during operation, normal saline solution to the extent of one or two pints should be injected into the cellular tissue of the chest and thighs, as well as a pint or so thrown into the rectum. Reaction, I believe, will usually come on rapidly enough after the bleeding vessels are tied and the terrible out-flow of the vital fluid stopped, and a careful application of the supporting methods mentioned will keep the flagging heart at work until the beneficial effect is manifested by the nervous system, and thus give the transfused fluid time to be absorbed and to distend the collapsed blood vessels.

When, after opening the abdomen, the pregnancy is found to be interstitial, the treatment must be quite different from the preceding, as the hæmorrhage is from a rent in the fundus of the uterus, and not from one in the tube. If the accident supervenes upon a pregnancy of short duration—say under three months,—the treatment is comparatively simple, and consists of tying off the utero-ovarian arterial anastomosis on the side of the pregnancy, then scraping out the cavity with the finger or dull curette, and closing it by several deep sutures. The tubes and ovaries, if diseased, should be removed, but if not I see no reason for disturbing them; while it is true that the tube on the side of the trouble might be-

come patulous, and another accident of the same kind happen again, the possibility is so remote as to be hardly worth considering.

In cases of interstitial pregnancy that do not rupture until the fifth month—the extent of time given by Tait,—the gestation sac within the uterine tissue might be so extensive as to require hysterectomy, and I believe that hæmorrhage from such a case would be so free as to prove fatal before operative interference could be instituted; but to wait for reaction before attempting rescue measures, would surely be fatal to the patient, as the bleeding from the lacerated uterine tissue (which is much more vascular under the same circumstances than are the tubal structures), would not be likely to become checked sufficiently to permit of reaction occurring.

In those cases where the rupture has occurred downwards into the cellular tissue of the broad ligament, and we have as evidence of such rupture a pelvic hæmatocele, immediate operation is not usually necessary, as the resistance of the cellular tissue and the walls of the broad ligament are such as to check the hæmorrhage long enough for a firm clot to form which, with the placental tissue, forms a plug that closes the bleeding vessels. If the ovum dies after the hæmorrhage, and the amount of clots and blood be not large, the mass is usually absorbed in time, and nothing serious results from the accident; and this favorable issue is probably the rule. If, however, the clots break down and suppuration supervenes, the case is quite another affair, and consequently demands prompt surgical interference. It is interesting to note the opinion Mr. Tait had of these cases in 1882, prior to the date of his first operation for ectopic pregnancy, and evidently before observation had entirely settled his ideas as to the correct pathology of this form of accident. On page 144, "Diseases of the Ovaries," he makes record of six cases of suppurating pelvic hæmatocele, on which he successfully operated by abdominal incision and drainage, and evidently in none did he consider the liability of ruptured ectopic pregnancy being an ætiological factor, but treats them under the head of "pelvic suppuration." In 1889, however, he writes, referring to the same six cases:

> Of these I select only one as a characteristic example, to illustrate alike their pathology and treatment; and the history of the case is eminently suggestive that it had its origin in a broad-ligament pregnancy.[14]

This brings up the mooted question of the ætiology of extra-peritoneal pelvic hæmatocele. Most writers still cling to the idea that a collection of blood in the broad ligament may result from other causes than ectopic gestation, but as these cases never, to my knowledge, have presented an opportunity to verify such diagnosis by necropsy, and as those that have been thoroughly examined at the time of operation have either proved to be either directly due to ectopic gestation or have remained in doubt, the preponderance of reliable evidence seems to be more and more in favor of ectopic gestation as the only ætiological factor aside from those of traumatic character. So strong is the belief in my own mind that, in any case serious enough to demand operative interference, I should consider the large extra-peritoneal collection of blood the result of ectopic pregnancy, just as I should if the blood were intra-peritoneal. The indications for operation are usually symptoms of suppuration, or constantly increasing size of tumor, with great pain; the latter is indicative of rapid hæmorrhage and consequent danger of secondary rupture of the walls of the broad ligament. The tumor in such cases is most advantageously attacked from above by abdominal incision, as the hæmorrhage can be best controlled from this direction. If hæmorrhage has ceased the vaginal route is preferable. When the collection is very great and the peritoneum has been dissected away from the abdominal wall, in front, the sac may sometimes be entered without opening the peritoneal cavity. The sac in all cases should be emptied and drained. If the case be one in which the hæmorrhage is still ac-

tive, the ovarian and utero-ovarian arteries should be ligated.

In cases of lithopædia within the ligament, the same operative treatment should be instituted.

In cases where the fœtus has grown to full development in this position, the operation should, if possible, be made immediately at the close of false labor, when the life of the child may be saved. These should also be treated by the abdominal incision. After the abdomen is opened a careful inspection and palpation of the sac should be made before incising it, so as to avoid cutting through the placenta or in any way disturbing the same. After thus carefully deciding the best point of incision, and packing sterilized pads in the abdomen around the tumor, to protect the viscera from the flow of amniotic fluid and debris, an opening large enough to admit of extraction may be made, the child removed, and the cord tied and cut, allowing the placental end to bleed. The sac should be sponged perfectly dry; the cord, which has ceased to flow, cut short close to the placenta; a large Martin, self-retaining, rubber drainage tube passed through the thinnest part of the wall into vagina, by means of forceps thrust through from the vaginal side, after which the inside of the sac may be dusted with iodoform; the incision in the sac finally closed with a continuous suture of aseptic kangaroo-tendon or cat-gut, and the abdominal wound closed completely after removing the abdominal pads. The vagina should be loosely packed with iodoform gauze, which it is best to change about once in three days. The end of the tube should be surrounded with sublimated gauze, or absorbent cotton in large quantity, and carefully changed as often as necessary to keep the outside dressings dry. The placenta will begin to disintegrate in a few days, and be gradually discharged. Antiseptic solutions may be injected if necessary, and if symptoms of septic infection develop, the vaginal opening may be enlarged to provide free and ample drainage.

In all cases of this kind the placenta must not be disturbed, for if it is, the most uncontrolable hæmorrhage will result. If the placenta be so situate as to preclude drainage through the vagina without injuring it, the opening in the sac should be sewed to the lower part of the abdominal wound and drainage maintained at that point. The vaginal method is, in the writer's opinion, preferable, as it has the benefit of gravitation and permits of complete closure of the abdominal incision, thus to a great extent obviating the danger of subsequent hernia. This method is advocated by A. Martin and the abdominal route by Mr. Tait.

Electricity has been used to kill the fœtus, and I believe it may be successfully employed for this purpose; and if the cessation of life was the termination of the difficulty the agent would be a very valuable one; but, unfortunately, the placenta has been known to grow and rupture after the death of the fœtus, and as the remains of such inert material often give rise to serious trouble, and also because the electrical current can only be used to any advantage before the rupture of the sac—and these cases are rarely diagnosed,—this treatment is possessed of no practical value to the scientific surgeon, and should be relegated to those who cannot themselves undertake abdominal surgery, and who practice in such out of the way places as to preclude obtaining the services of surgeons skilled in this kind of work.

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BIBLIOGRAPHY.

1. Longyear: Diagnosis and Treatment of Ectopic Pregnancy, *Annals of Gynecology*, 1898.
2. *The Lancet* (London), September 1st, 1888.
3. *American Gynecological and Obstetric Journal*, September, 1896.
4. *The Lancet* (London), July 25th, 1896.
6. Henry D. Frey: *American Journal of Obstetrics*, October, 1894.
7. Lawson Tait: Lectures on Ectopic Pregnancy, p. 7, 1888.
8-9. Strahan: Extra-Uterine Pregnancy.
10-11. Lawson Tait: Diseases of Women and Abdominal Surgery, vol. 1, pp. 45; 459; 469.
12. Keith: Text Book of Abdominal Surgery, p. 492.
13. Pozzi: *Medical and Surgical Journal*, p. 245.
14. Lawson Tait: Diseases of Women and Abdominal Surgery, p. 471.

Correspondence.

EXTRACTS FROM THE JOURNAL OF A NAVAL MEDICAL OFFICER.

(Continued.)

Callâo, Peru, July 30th.—I have been to view the famous portraits of the viceroys, that are, by the way, most disgracefully kept in a lumber room, stacked up against the walls and covered thicker with dust than one could imagine possible; the two very obliging young assistants who took me in, had to sacrifice their handkerchiefs to wipe the faces of these defunct and gorgeous representatives of Spanish authority. All the portraits, or nearly all, are full length, and somewhat uniform in size and framing; the most interesting, that of Pizarro (which I saw first in the library and then mistakenly understood to be a recently acquired painting) is, like the other earlier ones, much faded and defaced, but capable of restoration by cleaning and varnishing. In a good light the face is most striking, and reveals a dignified, rather handsome old man, with large, open, straight-forward looking eyes, but a hard, thin lip and crafty, cruel mouth; I thought—perhaps this was fancy—I could detect the sinister characteristics of the individual as we know them, even trace his treacherous, cold-blooded character in the mouth; yet it was a face to command respect, and even some admiration, for the intelligence, and above all, the resolution of it. I hunted out the portraits of Vaca de Castro and of Gasca, the two next, for I confess I do not know whether there is or is not one of Blasco Nuñez, who was defeated and killed by Gonzalo, a brother of Pizarro. Neither Castro or Gasca, as far as the portraits are concerned, presented anything significant: Castro, however, possessed a snub nose. All these portraits are clearly contemporary, and painted from life; and so far as I can judge are not possessed of any particular artistic merit, at least the earlier ones. All are in full dress—sumptuous would be the appropriate adjective—in the costumes of the seventeenth and eighteenth centuries, and all wore an amount of gold embroidery I would not have deemed possible.—A modern diplomat, even of the Russian or of an Eastern Court, is simply attired by comparison, while in the matter of uniforms, nothing modern can compare with them. The most striking countenances, striking, I presume, because of the romantic beards, are those of the sixteenth and seventeenth centuries.

It is so constantly cloudy here, at sea, that it is very rare to see the coast line, even of the Andes, but yesterday I had a glimpse of the latter, and the result was grand, though the highest point in view was, probably, not over ten- or twelve-thousand feet. The most impressive sight, after all, is the view had thirty or forty miles at sea.

To-morrow I go up the Oroya road, (*Oroya* means simply a "rope ferry" or "bridge") which is a great railway leading into the heart of the Andes, though, as the Verrugas bridge has lately broken down, I cannot hope to get higher than San Bartholemé—a paltry five- or six-thousand feet; —with perhaps time to walk up to Verrugas.

This is by far the most wonderful railroad in the world and will, doubtless, soon be finished through to Cerro de Pasco, for the Peruvian government is negotiating to liquidate its debts by turning over all railways to an English corporation. I find the Verrugas bridge* is 5,889 feet above the sea-level, and Oroya, the present terminus, 12,257 feet, the latter is 218.6 kilometres from Callâo.—I forgot to mention there are two lines of railway here, one an English enterprise that terminates at Lima, the other the Oroya, an American line that is expected, ultimately, to connect with the line that will some day unite the railways of Ecuador and the Argentine Confederation; and the Ecuadorean lines are expected to be extended to the Isthmus of Darien, there to meet the Mexican lines when these are continued southward.

Callâo, August 2d.—I succeeded in reaching the Verrugas bridge, during the trip out the Oroya road. It is impossible to convey any idea of the grandeur of the mountain scenery encountered, not even with the aid

*The present bridge is of the cantilever type and replaces the one carried away as mentioned.—Four other bridges were swept away the same winter. It crosses the ravine with a single span, consequently there is no longer any danger of a recurrence of the accident. It is 575 feet long, and its centre 252 feet above the bottom of the valley which it spans. The suspended span is 105 feet long, supported on two iron towers. The new structure was designed by L. L. Buck, of New York, the iron furnished by Messrs. Cooper, Hewitt & Co., of Trenton, N. J., and erected by mechanics sent out from the United States for the purpose. It is of vast importance to Peru inasmuch as it materially aids in the development of the rich mining districts of Yauli and Cerro de Pasco.—Ed.

of photographs, everything was so stupendously ahead of anything I have ever seen—that is perhaps the best way to put it. This road was built as far as completed by Henry Meiggs, who came to South America under a cloud—fraudulent bankruptcy or something. He was a Californian, not much of an engineer professionally, but of great natural ability and pluck. He made his first reputation in Chili, and a lot of money on contracts of various sorts (railroad projects, etc.), and as far as I can hear, seems to have had all the qualities of a *"bonanza"* (self-made) man. Though coarse and common, and not burdened with much principle, he was, nevertheless, good-natured and generous in his way. He had several more or less worthless children, and as he lost a good part of his money prior to his death, some years ago, I believe there is not much left in the hands of his heirs. How far the scientific part of this railroad is his work I do not know; I believe, however, that his principal merit—and that a very high one, —was in believing it a practical scheme, and in selecting the proper men to carry out his ideas. The road as projected is from Callâo, to Cerro de Pasco on the eastern range of the Cordilleras, and the distance would be something like two hundred and forty miles; it has not been running higher than Chickla, some 12,300 feet above the sea-level, but the principal part of the work has been done, and it seems likely now that the road will eventually be opened through, though, perhaps, not for some years—I believe there is but this one pass through the mountains anywhere near here; and it is really an enormous work. The valley ravines *(quebradas)* of the Andes differ from those of any mountains known; in the first place, being almost a rainless country, on the lower western slope there are but few streams; then too, owing to the latitude, there are no permanent ones until an elevation of sixteen or seventeen thousand feet or more is reached. There are two or three parallel ranges of the Andes running north and south, occasionally with interesting *quebradas* that make broad, flat valleys between. Owing to the general absence of soil, of vegetation, and of frost, these lower peaks —by which I mean those up to seven thousand feet or more, which is as high as I have seen them—are very singular in appearance. At a distance the general color under the bright sunlight (when it replaces the perpetually misty and cloudy sky of Callâo and Lima) is faintly red or salmon color. The whole country is pretty much covered with rocks or rubble washed down from the Andes, and the terraces cultivated by the Indians show how much work is needed to keep any semblance of soil thereon. In consequence of this movable character of the surface, the bottom of the valleys, even the narrow ones where the hills rise up very near by, is always comparatively flat.

From the road bed of the Verrugas bridge to the creek below is over two hundred and fifty feet. This structure was washed out, supposedly, by a heavy cloudburst that was seen gathering by a man going down the road of the main valley, and it caused such a jam of rocks, earth and water, next to the upper part of the structure, that nothing could stand it, for even the heavy iron work of the central pillars was not found nearer than half a mile away. This Verrugas *quebrada* joins a broader one (down which the trail and a railroad run to San Bartholemé) nearly at a right angle. When I saw it there was not a drop of water in the ravine, but the traces of the flood were plainly visible on the banks for at least thirty feet above the bottom. Nothing can be wilder than the scene looking up this *quebrada,* and I do not wonder that the man who saw the cloud gathering rode at full speed down the main valley without waiting for it to burst.

I was wrong in saying that these mountain sides and ravines are bare of vegetation, for a gray, thick lichen grows abundantly, and also a curious sort of columnar cactus a foot or two high, yet the general aspect is absolutely sterile. The conductor of the train, a bright little fellow who has been long in the country and now and then drops his *h*'s, pointed out with wearisome iteration signs upon signs of the existence of mineral lodes of all sorts, silver, copper, gold, quicksilver, etc., scattered all over these mountain sides which rose on either hand to three or four thousand feet above our train, yet not half a mile away; he was evidently infected with a mine mania, as would be any one here. I suppose nothing in the world can compare with the mineral wealth of the Andes, which has been hardly disturbed despite the greed of the early Spanish conquerors, and the enormous quantities already taken out, not to mention the treasures supposed (and known more or less), to have been hidden by the Incas from their Spanish conquerors, and worth all the secret treasure

stores of the world put together. I solemnly declare I almost expected to see some mass of native silver emerging from the soil before my very eyes.

I had to leave the ship very early, in the market boat, for the train starts from Callâo only twice a week, at 7 A. M. It was absolutely drizzling when I went ashore, what they call locally *la garua.* The streets of Callâo at this hour were not inviting, yet I had to walk about for half-an-hour, a cigar ingratiating me with the guardian of the peace, and we watched with equal interest the carrying off of a *"borracho,"* (an intoxicated person), to the calaboose by a squad of soldiers.

To my surprise we did not go into Lima at all, but changing cars started on our journey from a station to the west of the city. Here the people going up the road began to appear, some in riding costumes—poncho, big spurs, and broad brimmed hats,—others in more or less civilized costumes. The pure Indian predominates in Peru, and even in the older settled portions they look quite wild as they come down from the mountain regions to the towns. I believe there are vast tracts of country in the North where the Indians have never, in any degree, been civilized, and where the territory has been hardly explored.

Lima is situate in a comparatively broad and large valley of the Rimac, a river which by the change of the R to L gave the present name to the city.—Lima was really named by the Spanish founders under Pizarro (for they found no town ready to their hands here), *La Ciudad de los Reyes,* that is "City of the Kings." The valley, which is thoroughly irrigated by *acqueias,* or canals from the river, for the first eight or ten miles is well cultivated, and there are several large sugar mills, with extensive fields of cane.—Railroads are usually provided on all plantations, and traverse them in every direction, to transport the cane to the mills, which latter are fitted with the best of modern machinery and make the best of sugar, crystallized like that of Guadaloupe. As we ascended higher, the valley began to narrow in, still, however, keeping a comparatively flat bottom, with the river foaming along in the middle; and now were observed, at intervals, the ruins of ancient Inca villages built up on the mountain side and not without a resemblance to the *pueblas* of New Mexico and Arizona, though not really like them, as the latter are on the faces of cliffs, and real cliffs are rare indeed in this part of the Andes, the slopes being steep but uniform. I hope ultimately to examine some of these ruins close at hand, for though deserted for centuries, perhaps, in this climate the *adobe* or mud walls remain perfect. The population of Peru was very much larger at the time of the Conquest, probably 15,000,000, and these ruins, as well as the perfectly preserved line of the *acqueias,* and the wonderful terrace works on the mountains, show what the need of the land was. Apparently terraces were made everywhere that water could be brought to them. Many of the steep *quebradas* have a little brook foaming down and uniting with a larger stream below, and this was, invariably, diverted from its course and led into a canal around the hills as high up as possible, and so encircling, that it could be drawn off into the lower terraces; by the aid of these, mountains several thousand feet high, and so steep that were it not for these terraces every bit of soil would be at once washed away, were cultivated nearly to the top, and this sometimes to a height of over 12,000 feet. The terraces I passed over going from Verrugas bridge to the valley below, varied in width from a few yards to a rod or two, and the walls, a few feet in height, are still quite intact, having been laid with small cobble stones. It is stated that soil was often brought from a distance to these terraces, and wonderful stories are told of the tunnels, etc., made to carry the canals. But now all these mountain sides are barren, and even were the irrigation works restored, the altered state of communication making it possible to support the population by importation, would make such labor unprofitable.

It is between forty-five and fifty miles from Lima to San Bartholemé, and by the track five miles more to Verrugas; but I shortened the latter distance, perhaps two miles, by climbing right up to the track 500 feet or more overhead, by a tough zigzag ascent practicable for mules. It is a mystery to me how the track goes up to the tunnel back of the station of San Bartholemé, but this is child's play to some of the V's it makes elsewhere. After striking the upper grade I had easy walking, the track being well filled in and ballasted, and soon came to the bridge. I did not have as much time to look about as desired, for I had to get back to the returning train; still I saw the bridge pretty well. I did not like to go on the structure as a strong wind was blowing down the

gorge, even though it had a hand rail. Between the two remaining ends of the bridge and connecting the same, was what at first looked like a cable—that is when observed from below,—but proved on closer inspection to be the guard rail of the track which in some wonderful manner remained secured by its bolts when the road-bed and all went from under it.

It will give a better idea of the steepness of the mountain side when I say I had to search some little time for the track to get down again into the valley. I ought to have gone right under the bridge itself where there was a sort of path to the bed of the stream, formerly used by the workmen, but this was not visible from where I stood, and not understanding fully the instructions of the conductor, I missed it and took the roughest and longest road, the only consolation being that it led me over the ancient terraces. I reached San Bartholemé, however, in good time, rather warm and very dry; though, half the time in the bed of as fine a brawling brook as one could wish to see, yet I dared not quench my thirst, for the water is said to be abominable—probably an undeserved reputation,—for a reason I will mention hereafter. At the station I got a glass of *chicha,* a native drink fermented from maize, and which, when fresh, tastes somewhat like root-beer. I was also lucky in finding here a herd of llamas, some forty or fifty, with their burdens.

The llama is a singular looking beast with a thick stovepipe neck, and something like a poor relation of the camel. They looked peaceable, but are said to be, sometimes, ill-tempered. They were of various colors, one large white fellow being really handsome; but I had hardly a minute to stare at them.

Speaking of the llamas reminds me that in Lima they have, or rather had, a beautiful park, with many beasts in cages kept for the delight of the populace; but the brutes of Chilians, who shamelessly laid hands on everything within reach, stole the animals, and even killed the poor elephant, the pride and joy of the whole community. I have heard things about this Chilian war which would fairly make one's hair stand on end; the atrocities perpetrated were some thing most horrible. Peru is a country which has been in constant revolution and turmoil since its independence in 1824, and Chili appears to have taken advantage of its weakness and picked a quarrel in order to extend her territory. The wealth of Peru consisted of deposits of guano and nitrate beds (nitrate of soda, which lie mostly in the southern provinces), all of which are now, as the result of the war, practically owned by Chili. I am told that the native population of Chili, that is the Indian, or half-Indian, is a much fiercer lot than the Peruvian and far more brutal. Be this as it may, it is certain that before the Spanish conquest Chili was a comparatively barbarous country, and probably is still so. Where Chili had the advantage was in the much larger number of people of foreign birth or parentage, English especially, which gave them a stronger government and more intelligence.

I quite forgot to mention that when the train got up some 2,000 feet or more we left behind the cloud and drift and rolled into a bright sunshine that alone was worth going to see; though the sun was warm, yet the air was fresh, and save for two little tunnels there was not a bit of shade on the track. *Verrugas* in Spanish means "warts," and this particular *quebrada* is so named because of a certain peculiar disease (that occurs now and then as an epidemic) supposed to be endemic there, and to be produced by the water,—a doubtful statement, but which I nevertheless respected sufficiently to let the water alone. The Verrugas fever, as it is sometimes called, is mentioned by Prescott as occurring among Pizarro's men, nearly disabling them for a time, and of late years it has been described. It is not by any means peculiar to one district, but places like these deep gorges may tend to produce it, exactly a goitre prevails in certain portions of the Alps.

On our way back I have seldom seen anything finer than the lower part of the valley of the Rimac with its great fields of cane showing for miles away, with a yellow green hue like a lake covered with the sort of slime one sees on stagnant ponds.—This is not a pretty comparison but it is a true one.

A triumph in engineering is reported from the mountains of Peru, where a twin-screw steamer of 540 tons, 170 feet long and thirty feet beam, has been successfully launched on Lake Titicaca, the highest navigable water in the world, being more than 13,000 feet above the sea. This steamer, which belongs to the Peruvian government, and is used for freight and passenger traffic, was built on the Clyde, taken apart, shipped to Mollendo by sea, then carried to Puño by

railway and transported over the mountains on the backs of llamas and mules, and again put together.

The few Peruvian military displays I have seen, evinced a much better equipped rank and file than I should have expected; the men, half Indian or more, short indeed, but rather rugged looking, and I am told, excellent in the field, when properly officered and led. The only occasion when I saw any considerable body of them, and no very great turn out then, was on Sunday, the 28th of July, the anniversary of Peruvian Independence. On this day Congress meets, and after a solemn high mass at the cathedral, at which the President and all his officers are present, it opens formally in the chambers. I did not go to the cathedral as I ought to have done, but looked down from the balcony. By chance it was a fine bright day, and the troops, resplendent in new uniforms served out for the occasion, were drawn up in the *plaza* opposite the palace. There were a lot of infantry and thirty pieces or more of artillery. The uniform of the men is rather neat, being of coarse, dark blue cloth, but with too much red facing; the officers had red trousers and a general imitation-French air, and all wore fine swords; being usually good riders and well mounted, the latter did not look badly on horse-back. Such a constant and unnecessary and long-drawn-out blowing of bugles I never heard,—all these people seem to have great faith in the bugle; but I was diverted by one little by-play just under my window: All the soldiers had their wives and sweethearts somewhere about, and numberless little booths for the sale of refreshments were stuck up in and about the *plaza*. At the moment when the bustle at the cathedral seemed to indicate that the President was about to come out, and the attention of the officers was attracted to that quarter, up skipped one of the women with a pot of *chicha* under her *manta*. Her husband, or lover, drank first, and deep (as was his right), his comrades screening him from view; then he passed around what was left, which was disposed of by his companions in the same dexterous fashion, and all in about five seconds. The woman stepped back onto the sidewalk with the pot under her *manta* and a broad smile of triumph on her face as she looked up and caught the eye of some of us who had been watching her manœuvre with interest.

Callâo, Peru, August 14th.—This morning is quite typical winter weather for this region—sky a dull gray, but the day warm enough, with no wind; the sea like a pond on a cool morning in summer as we see it at home, with no perceptible swell unless closely looked for; yet the boat in going through the water reminds one that he is not crossing a lovely pond, quite. About half way across the three or four miles which separate San Lorenzo Island from the main land, is a reef, termed a "whaleback," and there the surf rolls in after a fashion very unlike a pond. Numberless pelicans and great seals are swimming about; the latter always interest me, they seem so tame and domestic as they stick their heads out of water and peer about curiously. The pelicans are also diverting, with such a solemn air about them as they fly about with their prodigious beaks hanging straight down, or sit on the water, or on a buoy, sometimes in little groups talking steadily to one another. They are great fishers, and every now and then one goes pouncing into the water, and disappears miraculously for so large a bird, and presently emerges with or without its prey; in the latter case he looks distinctly melancholy as he flies off again vigorously pushing himself out of the water with his great feet; but if he has caught his fish it is a real satisfaction to see him take it into his capacious gullet, after which he stays for some time triumphantly floating about. These "pelicans of the wilderness" seem of a haughty disposition, and plump down beside the afore mentioned seals without any trace of fear. The gulls even, who are not easily abashed, seem few in numbers and very weak among the pelicans, though I do not know that the latter molest them.

After seals and pelicans I ought to mention the fauna existing on board the ship itself. Rats, unfortunately, are plenty, though not so bad as on some ships I have seen. If I had a cat I would chain in my room where he might at least terrify the invaders. On deck we frequently see them in the rigging, —which they climb like sailors,—or running about the hammock nettings. These (and more or less cockroaches) are our wild beasts; but there is also a collection of pets. First in rank among the latter I place the macaw, for he can talk, an accomplishment I have never before seen in a macaw; he excels by far, in linguistic accomplishment, any of the parrots, and moreover has a good presence despite a broken wing, which however is fast mending; he is also of mild disposition, and I have had him on my finger,

though his enormous beak looks perilous. All in all, he is a bird of undoubted intelligence and of much dignity of deportment.

Next comes a squirrel, caught in Payta, with a resemblance to the North American gray variety, yet unlike, though about the same size, and much the same coloring; his tail is so poorly furred that it resembles nothing so much as a worn-out feather duster, and his ears are inordinately large, and are bored, with tufts of red worsted in them,—some day he is to have real silver earrings. He is lean, and one would swear pale of face as if he had not had enough to eat, and his ever protuberant glassy eyes start out of his head when he looks at you, though he is a cheerful, impudent little beggar and much of a favorite, but obliged to be kept in his house too much, because he is accused of gnawing the running rigging. He, too, is very tame and when called will jump up and playfully nibble at buttons, watch chain, or anything that strikes his fancy.

There are various other birds besides parrots and macaws, but nothing worthy of much interest; there have been one or two monkeys, but I have not seen them lately, and fancy they have died, or been disposed of. All these pets belong to the men, and it is a good thing to have them aboard, though under a sort of perpetual protest.

Callâo, September 3rd.—We sail for a 5,400-mile trip in a few days, and it is probable our friends will not hear from us for from six to eight weeks, according to luck and wind. To-day I called upon the American Minister, whose *menage* I believe I have not mentioned. His name is H—— and he is from Oshkosh, the first from this locality (Monsieur, Madame and all) that I have ever met in the flesh socially, and they are worthy of their reputation. The Secretary of Legation is an ancient officer, and I came to call on the Minister through his instigation because the representative of the great republic is ill; but he doesn't want a doctor anyway.—These Oshkoshians have a native fund of good sense, but his supporters thought it would be as well to have a medical man as a bait. *Madame la Ministré* introduced me to an ancient French gentleman (who was calling on her at the time), and also, in a confused manner, to a "Sir Charles," finally explaining it was Sir Charles Maynard, the English diplomat. I think she thought much more of me because I was not cowed by this dignitary, and the poor old fellow seemed quite enlivened at having somewhat of a substitute to talk to. I do not wish to boast of my *aplomb* in the presence of titles, but Lord Donoughmore, who is here as representative of the English syndicate which is negotiating a treaty to buy up all the railroads of Peru in exchange for their national debt, is quite well known to me, though I do not call him "Donny" as his older acquaintances mostly do. This worthy peer, whose breeches if they cost him more than a "crowne" were high in the market, is rather a young man, and highly accessible,—not at all the proud aristocrat,—and by no means a fool. I suppose he is Irish from his title, or at least by residence.

September 9th.—I have been up the Oroya road again, but unluckily the train was late so did not have time to take the walk to the Verrugas bridge. It was, however, interesting enough to repay me for the long dusty journey, especially coming back, when the view had in occasional glimpses looking down the steep, narrow and winding valley of the Rimac was even more impressive than before. I also noticed more and more wonderful specimens of the Inca terrace work on the mountains, and am told that up at the height of 15,000 feet there even better ones. What chiefly puzzles me is the question of irrigation as, from this distance at least, it seems impossible that some of the higher terraces could have been supplied with water, but the difficulty might disappear on closer inspection. I saw more llamas, and stared at them to my heart's content, having time enough: They had brought down ore from some of the nearer mines. One mining company employs five or six thousand of them, and it would be impossible to get along without these creatures at these altitudes, where they are perfectly comfortable, and where donkeys cannot live. They carry their loads, laid on their broad, woolly backs without girth, and over seemingly impossible paths, and their relation to the camel family gradually grows on one. For strangers they appear to have no love, and I did not care to stroke for fear of their biting or spitting on me, which last is a trick they have, and the saliva is so acrid as to temporarily blind one if it gets into the eye. On being approached, when kneeling down at rest, their countenances were extremely forbidding and touch-me-not, and they gave a sort of low whine in a fretful treble something like the mew of a cat. There were

two *madronas* or "bell-wethers" which led the herd; and these had on collars with three or four pretty large bells, besides a head-dress of gay worsted work. The *madronas* (literally "mothers") looked more supercilious than the rest.

At Sea, October 6th.—We have had, so far, a rather uneventful and quick passage; are two-thirds of the way to Honolulu and should arrive there in ten days. The last week of a voyage always seems the longest, and, already, as one begins to look forward to the end, it is difficult to pass away the days with all the reading and playing of games I can manage. It is just beginning to get hot, the weather up to the last few days having been cool enough to make it comfortable sleeping below; even now it is well enough on deck. We struck the northeast trades yesterday, and now have abandoned steam and are trusting to the wind to carry us to port. The immensity of the Pacific strikes one on a trip like this, on account of the absence of any sail or sign of any one else having ever been here. This is so different from the Atlantic where one cannot travel 5,000 miles without meeting many other vessels. Here it is a rare exception, and we have sighted absolutely nothing since we left Callâo, if I except one sea-turtle that was asleep, and I did not even see this lonesome creature. To be sure, during the ten days to come there is plenty of time for adventure. Surely there was never weather milder than experienced in this part of the Pacific, which, especially to the southward and eastward, where we came from, is well named.

October 7th. Another day gone, and uneventful except a fair run of some 180 miles. If the wind holds we shall be in Honolulu on the 16th or 17th, possibly before. There is usually in these Pacific trades a heavy, though not very high sea; the immense extent and depth of the water causes a long heavy swell, though not usually troublesome. I think again and speak again of the peculiar solitude of this ocean—never anything in sight, and hardly ever have I seen so much as a clump of seaweed.

October 8th.—I should say October 9th, for it has just gone eight bells—midnight. I have been on deck taking fresh air largely mixed with the rain, for it is both warm and close below. We had a good run today, again about 180 miles—almost too good to last; but I hope we shall be in Honolulu in another week.

(Continued.)

Rejuvenescence of the Hair.—

A patient of mine, aged sixty-one, grey-headed and bald (I believe he lost his hair somewhat early), noticing a strong smell of gas in his drawing-room, proceeded to discover the cause with the aid of a lighted candle. He certainly found the leakage, at the same time causing an explosion which set fire to the place, and blew off what hair he possessed, severely burning and blistering the scalp. He recovered from the shock in a few days, and when the burns had healed went about as usual, wearing a silk cap. I saw no more of him until he called to pay his half-yearly account and to show me his "new head of hair." It is somewhat of a dull brown color, with a few white strands amongst it. It has grown all over his head, so that he is no longer bald. He tells me he now has quite as much as he had when thirty years of age, and he quite considers his "restorer" a powerful rival to any advertised.—HARRIS *(The Lancet,* London.)

The Pelvis of the Soudan Woman.—

In a Halle inaugural dissertation, Doctor P. Römer describes five Soudan women's pelves in his collection. All are of light and graceful build, with a decided flaring of the ilia: Contrary to Vrolik, the author found no striking reduction of the transverse,- but increase of the antero-posterior diameter. In one instance the superior strait was moderately, and in another exquisitely, transverse-ovate; in a third it was more round than oval; in a fourth and fifth it was quite round,—so there cannot be said to be any typical form of the pelvic entrance. The sacrum was small and slender, made up of five vertebræ in three instances, and of six in two; there were great differences in its curvature.

The Soudanese are distinguished from related Polynesians by their shallow pelves, while the skulls of all are brachycephalic. The Malay pelvis is smaller than the European, shallower and of more slender build. —*Centralblatt füer Gynakologie.*

Cerium.—

There is certainly something odd about this element. Monazite sand yields three different ceriums, agreeing in spectroscopic character and in the ordinary reactions of the metal, but not in all chemical respects, they having the respective atomic weights of 138, 148 and 157.—SCHUTZENBERG *(Progressive Age.)*

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DR. G. ARCHIE STOCKWELL, Editor.

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Editorial.

CALOMEL ADMINISTRATION AND PTYALISM.

The question of the transformation of mercury submuriate into corrosive sublimate within the human organism, continues to excite the attention of therapeutists. Only recently the subject was again taken up by the Therapeutical Society of Paris, when Patein declared the theory of such transformation in the presence of sodium chloride (as hitherto generally claimed, and as upheld by Miahle, *et al)*, is wholly false; he believes that calomel can not be changed into bi-chloride through contact with the alkaline chlorides, or by any action of the gastric juice, and in this he is corroborated by Pouchet who, assumes that neither bromides or chlorides possess a transforming power, but that such change in the mercurous salt is only possible in the presence of an alkaline iodide; or that if it takes place as the result of contact with a chloride, such chemical action cannot with certainty be avoided by simple abstention from salted articles of food, which as a number of colleagues pointed out, would likewise require all the chlorides to be removed from the economy.

The foregoing arguments will excite some surprise among these who have had practical experience with the administration of mercurous chloride, and the contentions made are, to say the least, open to considerable doubt. If alkaline iodides only are at fault, why is it the orthodox prophylaxis and treatment by potassium iodide is upheld in all cases of mercurial ptyalism? As is well known this salt, in certain proportions, transforms corrosive sublimate into the less soluble *deuto*-iodide, but unless these proportions are very carefully adjusted the toxic manifestations of the bi-chloride are enhanced. Iodine and water will decompose mercurous into *mercuric* chloride and iodide of mercury, but this chemical action, though simple enough in the test tube, is very uncertain and hard to obtain within the economy by reason of the digestive acids and ferments, i. e., the gastric juice on the one hand, and the pancreatic fluid and biliary acids on the other.—These seem not to be taken into account in the general run of discussions. Further the secretions of the active and normal duodenum are now known to be, not alkaline, but acid!

Again, the most certain way to induce ptyalism is to permit a diet of salt pickles (fresh from the brine and prior to the addition of any acid) a few hours after the mercurial has been ingested; indeed, with a moderate dose of calomel there seems to be created an abnormal craving for salted foods which, too often, despite the efforts and warnings of the medical attendant, is gratified.

Most acids, vegetable as well as mineral, tend to induce more or less evidence of salivation if taken into the stomach within a brief period following the ingestion of a small (or medium) dose of the lesser chloride, and practical experience and observation afford valid reasons for the assumption that both the mercurial and the acids stimulate an increased flow

of the gastric and duodenal fluids, whereby these latter, perhaps, may become pertinent factors in the accident. Again, a most common procedure, and one that has had the sanction of "authority" (whatever this term may mean), is to prescribe calomel in conjunction with sodium bicarbonate—it being held the alkali will neutralize the digestive acids, and thus avoid a possible ptyalism. The result, however, is just the reverse of that anticipated and as inculcated by theory; the small amount of bicarbonate permissable stimulates the secretion of the gastric juice (being aided perhaps by the mercurial) and a practical hyperchlorhydria is obtained.—Hence the fallacy of this particular combination; at least twenty grains of bicarbonate is required to render neutral the secretions of the normal stomach under ordinary conditions.

But, to return to our "muttons": The chlorides of the economy, and the chlorides that are ingested in a way to permit of chemical action with calomel, constitute two widely apart propositions. Another thing, with a large dose of calomel, fifty to sixty grains, which tends to speedily eliminate itself, it is very difficult to secure salivation. *Per contra,* one grain of the drug, given in divided doses over a period of twelve hours will speedily ensure ptyalism—this was the old fashioned method whereby the remedy was administered, not alone for its alterative action, but also for the purpose of "touching the gums." Evidently then, *elimination* is the chief factor to be considered when administering calomel, and consequently no such satisfactory results accrue to the employment of this drug in small doses, as is to be obtained through the large.

Manifestly the problem of calomel salivation, from a chemico-physiological standpoint, is as far as ever from being satisfactorily solved.

THE ARMY "CANTEEN" ENDORSED.

The Committee on Legislation of the American Medical Association, at the recent session of the latter in St. Paul, presented a report recapitulating the resolutions adopted the week before by the National Association of Military Surgeons, with the following comment:

This resolution, the outgrowth of careful study and observation by the Medical Department of the United States Army, is concurred in by the commanding officers at the several posts, and intended to correct serious abuses under the present law, which result in drunkenness, desertion, insubordination, dishonorable discharge, crime, poverty, and appalling increase in disease and invalidism amongst the troops. We find that the experience of foreign governments coincides with that of the National Association of Military Surgeons in the necessity for the Army Post Exchange or Canteen.

The following was then adopted:

Resolved that this Body deplores the action of Congress in abolishing the Army Post Exchange, and in the interests of discipline, morality and sanitation, recommends its re-establishment at the earliest possible date.

The foregoing will undoubtedly meet with the approval of all honest, thinking people; at the same time we do not suppose it will be hailed with "joy unalloyed" by those members of the female sex appropriately designated as "women with a mission." One particular organization which comes under this head, and to whose efforts the abolishing of the "Canteen" is largely due, will, of course, raise a violent protest not unaccompanied with "howls" of morality, etc., but this organization has never been known to be in any sense, despite its distinctive title, temperate in its demands.

. . . . . .

In line with the foregoing: A petition sent to the Russian Military Cabinet ask-

ing that spirits as a beverage be denied the army, was declined on the ground that the amount supplied each soldier is small, and given only at infrequent intervals. Such moderate consumption of liquor is held, by the Russian military authorities, to be harmless.

A MODERN SNOB.

In looking over the "Life of Charles James Lever," the well known author of "Charles O'Malley," "Harry Lorrequer," "The Dodd Family Abroad," and some thirty other works of fiction, we find the following criticism of the snob, an individual whom Thackery characterized as "one who attempts to assume a station in life above that to which he belongs."

With the laborer, the farmer, the woodsman, and even the Indian, I can live in daily, even hourly companionship, for an indefinite period of time, and I can put up with as coarse food as any of them, wear as coarse clothes, lay down on as mean a bed, talk as shoppily and penuriously, think as humbly. But I can not endure the well-dressed upstart, devoid of birth or breeding, and the continual quasi-refinement of the people of new-made wealth, nor the pretension of one who feels that by money he is the equal of all and the superior of most. Gentility is a matter of birth, breeding and education, but not to be purchased like potatoes and cabbages across a counter, nor like pinchbeck watches had from the hands of the auctioneer.

EDITORIAL NOTES.

Acute Rheumatism and Endocarditis.—

The contention of Doctor Alexander Harken, as made in 1889, that when acute rheumatism develops after a chill the initial mischief is endocarditis, has latterly obtained many adherents; likewise also his recommendation that when any cardiac disturbances can be detected, a blister applied to the region of the heart "will promptly cut short the attack of rheumatism." These ideas have recently received confirmation at the hands of a number of experienced medical men in Great Britain.

Certainly the remedy is simple of application, and at most no harm can result—and with care, not even pain. We would advise, however, that the epispastic be not permitted to complete the vesication, but that when the part has become well reddened, the blister be removed and a hot poultice applied, which will complete the work of the former.

Free Hydrogen in the Air.—

Recent experiments by Professors Dewar and Liveing have demonstrated the existence in the atmosphere of a sensible proportion of free hydrogen—the presence of this element, in a free state, has not heretofore been satisfactorily shown. "It is regarded as probable that on account of the high velocity of the hydrogen molecule, free hydrogen can not be permanently retained by the earth, and that there must be a continual accession of this gas from the inter-planetary space."

Antiquity of Man.—

This problem receives an interesting answer in the latest edition of De Mortillet's "Origin and Antiquity of Man." The total number of years elapsed since, according to geological evidence, man first appeared upon the Earth is placed at 238,000: Of this 78,000 years belong to the Pre-Glacial epoch; 100,000 to the Glacial; 44,000 to the interval between the Glacial and Proto-Historic; 10,000 to the latter and the Neolithic; and 6,000 years to the time elapsed since the beginning of the Historic period in Egypt.

A Worthy Enterprise.—

The "Society for Kitchens for the Sick" has opened its first establishment in Berlin, Germany, and hopes to supply a widely-spread want by sending out invalids'

food to patients' own houses. The arrangements are extremely practical and well thought out in every detail. Packed in modern "thermophore" apparatus, the prepared food will reach the invalids' houses without losing heat. The scale of prices is said to be extremely moderate.

There are openings for like enterprises in every city in the United States.

New Device for Intestinal Anastomosis.—

A novel and most practical device—if the claims made are substantiated—is the "crushable button" invented by Doctor Coffey, of Portland, Ore., which is made by cutting a ring out of potato with tin tubes of suitable sizes, then, by cutting a groove along its periphery to receive the ends of the intestine.

"After tying 'purse-string' sutures, and leaving the ends long," says the inventor, "the gut is sutured very near the mesenteric border (where the 'purse-strings' emerge), entirely around the button. After applying the continuous suture the 'purse-strings' are cut and removed." Finally, when anastomosis is complete, the button is crushed, and readily cared for by the intestine.

A New Anæsthetic.—

It is announced that the odoriferous secretion of the skunk is a powerful anæsthetic.

Well—it ought to be! But we doubt very much its *practical* utility. It is probable the secretions of all the Mustelidæ partake more or less of this character. Even the product of the gland of the beaver (Castoreum) is to some extent anæsthetic when employed in solution, subcutaneously, but nevertheless is not generally available, for reasons obvious.

Items and News.

Cat Tracheotomy.—

Tabby swallowed a strong fish bone which stuck in her throat and defied all attempts at removal: The efforts made in the direction of relief only tortured the poor thing, who fled and hid herself, and was found only after many days, very weak through starvation, but still alive. There had been a course of medical lectures in the place, and Tabby's mistress gives the following account of what happened:

> Puss had performed tracheotomy, neatly shaving off a circular patch of hair on her throat and cutting the wind-pipe—oh, wonderful animal!—below the part where the bone still stuck. She was breathing, when found, through the orifice she herself had made. I now easily removed the bone, treated the wound antiseptically and nursed her back to health.

Any suggestion that the cat had merely scratched herself to pieces in her agony and breathlessness would have simply assured the contempt of her mistress for, "why was there not torn skin *above* the place of the fish bone; and why was all done with the art of a trained nurse."—*The Daily News* (London.)

Medical Supplies for the Army.—

It is understood that the contracts have, for the most part, been secured by Eastern parties, though heretofore Detroit has been largely favored. Among the fortunate bidders of this city is the house of J. F. Hartz Co.—*Exchange.*

Professional Secrecy in France.—

According to article 378 of the French Penal Code, a physician is forbidden to reveal any secrets confided to him, or of which he becomes cognizant, in the exercise of his profession. A married woman, applying for a divorce from her husband, sought permission to introduce in evidence certain letters addressed to her by Doctor Cordonnier, who had attended her husband, to show the nature of his malady. The court commenced by laying down that the physician does not exceed the limits of his rights when he informs, by letter, the wife of a man who he is attending, of the causes and nature of her husband's disease; but it adds that these letters must not be divulged, even by agree-

ment between the sender and the recipient, as the obligation to professional secrecy imposed by the law does not permit of his consenting to their publication.—*Echo Médical du Nord.*

The Anglo-Saxon Race.—

The immense virility of this race, like the sturdy oak, may resist the encroachment of the canker worm for generations, but unless purged and purified of disease, it will at last crumble and decay. Whatever undercurrent evidences of degeneration may obtain, there is no apparent diminution of national power. The two great branches of the Anglo-Saxon family on both sides of the Atlantic, never exhibited so much racial and national vitality as to-day.—*Dietetic Gazette.*

Infant Foods, Insufficiency of Artificial.—

The results of analyses of human milk are never identical, therefore, the demand for an exactly equivalent substitute is unjustifiable. Nature is more liberal in allowing latitude than the chemist. Heat both improves and injures milk; and boiled, or sterilized cow's milk is never woman's milk. The process of sterilization is indispensable because it destroys pathogenic bacteria. The artificial food of the infant should be amply diluted, because of the heterogeneous composition of cow's milk. Home-made foods are preferable to the proprietary foods of the market.—JACOBI.

Sexual Appetency and Sexual Legislation.—

Sexual appetency belongs equally to the male and the female, and in establishing legislative acts governing this question both must be considered. The young man needs protection against the wiles of the designing *demi-mondaine,* who is often below the age of eighteen years, quite as much as the young woman against the vicious man.—*New York Medical Journal.*

Coal-Tar Derivatives, Identification of.—

If a small quantity be placed in a dry test-tube, a little chloride of zinc added, and the whole heated, aromatic vapors will indicate acetanilid; acetic-acid odor, phenacetin; and an odor resembling fresh carbon disulphide, evidences antipyrin is present.—*Canadian Pharmacist.*

Cinnamon, Adulterated.—

The adulterant for cinnamon chiefly used is guava-, or jungle-bark, which is carefully peeled, prepared and dried, and closely resembles cinnamon in appearance. The sweet odor and the still sweeter taste are managed by immersion in large tubs of waste water from the distillation of cinnamon oil, and afterwards, when dry, by the slightest touch on each end and of a bundle of the false pipes with a cloth saturated with cheap cassia oil.—*Chemist and Druggist.*

The Use of Preservatives in Food.—

Many things are inimical to the bacteria of putrefaction that in no way injure the human organism if administered in small amount. In using boracic acid or borax as preservatives, it may be remembered that one of the functions of the kidneys is to carry off just such foreign substances and soluble mineral compounds. These organs can, and do, carry off vastly greater amounts of single foreign substances (where people are in the habit of taking saline cathartics) than there ever are in food in which a few grains of a preservative have been placed.—*Dietetic Gazette.*

Advent of Mahogany.—

Mahogany was originally sent to a certain Doctor Gibbon, of London, by a friend, as a remedial agent, with the statement it is used by certain Indian tribes as a febrifuge. Repeated trials proving its negative character, Gibbon ordered a desk fashioned out of the block, and, being struck by the beauty thereof relinquished his practice and became an importer of mahogany instead.—*Western Druggist.*

Liquid Air in Medicine.—

It does not seem that liquid air promises to extend greatly the therapeutic field, and it will be unwise to have too sanguine an estimate on its uses in medicine, however interesting a product it may be to the physicist.—*Medical Press and Circular.*

Pus in Urine.—When intending to examine under the microscope for pus cells, they will always be rendered more visible by first adding to the specimen a little tincture of guaiac, which colors the cells blue.—*Dominion Medical Monthly.*

Book Reviews.

In the Wake of King James, or Dun-Randall on the Sea. By Standish O'Grady. Cloth; 12 mo.; pp. 242. Price, $1.25. The J. B. Lippincott Co., Philadelphia, Pa.

This is one of the most delightful books it has been our privilege to peruse. Though there is no preface or introduction, it manifestly is based on one of the many traditions that are harbored by the people inhabiting the west of Ireland.

A young officer in the service of William and Mary, after the suppression of the rising in the behalf of James II., is invited to visit his Jacobite cousins at Dun-Randall. He accepts the invitation in the spirit in which he supposes it to have been given, only to discover he has been lured to the wildest and most lawless portion of the island, with the intent to despoil him of his wealth and finish with his ignominous death. He finds a co-captive in the person of a fair maiden whose brother has mysteriously disappeared, and who has been torn from her home, and her tenants harried of their all by means of rack, torture, forged documents, etc. —she being destined to be the bride of Dun-Randall. Accident, however, secures the escape of the couple, chiefly through the efforts of the maiden; and incidentally appears a most wondrous and delightful description of caves, isles, and the wild and weird scenery peculiar to the west coast of Ireland. Ultimately the maiden secures a following, who under the leadership of her foster-brother and her lover—for so the young Williamite has become—penetrate the vaults of Dun-Randall, release the maiden, (who has been recaptured, and it on the point of being subjected to the rack,) and also her brother, who is found chained in the dungeon. Finally, the iniquitous rookery, with all its household and following, is blown into the air by firing the barrels of gunpowder that had been concealed in the foundation vaults for purposes of revolt.

From the first the Author holds the interest of the reader, and *finis* comes all too soon—the best possible test of a book. As a whole, the volume is a valuable contribution to the history of a time when religion and royal legitimacy, caused the hand of brother to be raised against brother, and sons to be arrayed against fathers. This is almost the first exploitation of the legendary history in which this little known district of Ireland is so rich. Mr. O'Grady is to be congratulated upon the success he has achieved in this field.

Our Animal Friends. Cloth: 4 to. The American Society for the Prevention of Cruelty to Animals, New York City:

This publication is doing good work in exciting interest in weak and abused animality. We wish a bound copy could be placed in every hotel, library, and reading room throughout the country, for the contents are not only educational, but suitable to all ages and classes; being devoid of all cant and abstruse theories, Our Animal Friends constitutes most healthy reading.

The Youth's Companion. $1.75 per year. Perry, Mason & Co., Boston.

In the fifty-two weekly issues of the year this publication issues more than 200 stories, yet so carefully are they selected that they prove inexhaustible in variety, and unfailing in the power to delight.

Among the groups of stories appearing or about to appear in the present volume of the paper is one of "Old Settlers' Day Tales"—stories actually told at some of the gatherings of pioneers in the West. Then there are four stirring "Tales of Our Inland Seas," picturing the adventures of the sailors on the Great Lakes, and four "True Tales from the Zoos," told by famous keepers and trainers of wild beasts. And this is only a beginning. The Illustrated Announcement of the volume for 1901 with sample copies of the paper free to any address.

The Living Age. Price, 15 cts., or $6.00 per year. Littell & Co., Boston.

After a successful career of fifty-seven years, this standard periodical seems as vigorous and prosperous as ever. Always chief, it is now the only eclectic weekly in this country. Its distinguishing characteristics are: It presents in convenient form a compilation of the world's choicest literature, encyclopoediac in its scope, character, comprehensiveness, and completeness, and with a freshness—owing to its frequent issue—attempted by no other publication. The ablest essays and reviews always appear therein, as well as the latest results of scientific research; also, biographical sketches, stories of travel and exploration, literary criticism, and every phase of culture and progress in the European world—the whole making an amount of reading of the highest value, and unapproached by any other magazine.

During 1901 the Department of Fiction will include, beside short stories, translations of representative European novelists.

Some acquaintance with foreign periodical literature is an absolute necessity to every one who desires to keep abreast of the world of thought, and to be in touch with the best results of the intellectual activity of the times; and in no other way can this be so satisfactorily, cheaply, and conveniently secured as through this weekly magazine.

Therapeutic Brevities.

Digitalis, Large Doses of, in Acute Alcoholism.—The good results reported by English and Swedish physicians with large doses of digitalis encouraged me to try the same in ten cases of delirium tremens, the tincture being given in four drachm doses every four hours for three doses. If the patient became quiet and the delirium disappeared, the remedy was stopped before the third dose; if not, another series of three doses, six hours apart, was ordered.—Usually not more than three doses were necessary. In only three of the ten cases were the results so pronounced and quick that there seemed to be no question that it was entirely due to the effect of the digitalis. The best effects were obtained in patients in early life, who were strong, robust and suffering from no complications, but with violent delirium: In such the results seemed to be exceptionally favorable. I would not advise more than three doses of the remedy as a rule.—Loomis *(Journal American Medical Association.)*

Carcinoma, Pain of.—When morphine, cocaine, and other local and general analgesics fail to give relief from pain in advanced or recurrent carcinoma, suprarenal extract sometimes proves invaluable. Use a ten-per-cent. solution, and apply locally two or three times in twenty-four hours. A patient with malignant œsophageal stricture, after weeks of pain found immediate relief therefrom after one teaspoonful of this remedy.—Peters *(The Lancet,* London.)

Tobacco, Effects of.—The "weed" is harmful to most neurotics, though even among these we have known a few exceptions, to whom, when used in moderation, it seems decidedly beneficial. It is harmful in certain cases of cardiac affection; it affects the sight injuriously in some few people, and the throat in others, producing follicular pharyngitis. Used to excess it is bad for every one, as is everything else, even such wholesome things as bread or water. What constitutes excess is an individual question to be determined for each person either of himself or with the advice of his physician.—Editorial *(New York Medical Journal.)*

After-Pains, Relief of.—In many cases a warm meal is better than any medicine, but where the pains are exhaustingly severe, turn to amyl nitrite. This potent drug is a very efficient controller of after-pains, and used cautiously no harm need be apprehended from it. A good way of using is to saturate a small piece of tissue-paper with five or six drops, stuff this into a two-drachm vial, and direct the patient to draw the cork and inhale the odor when she feels the pain coming. It acts with magical celerity.—*American Journal of Obstetrics.*

Ethyl Bromide.—

The advantages of this agent are:

The short space of time required to render the patient unconscious:

The small quantity employed and the rapidity of its elimination from the system:

Simplicity of administration, no cumbersome apparatus or inhaler being required, and:

Comparative freedom from unpleasant sequelæ, such as headache, nausea, vomiting, etc., which characterize the other and more popular anæsthetics.—Krusen.

Hæmorrhage with Debility.—Achillea, commonly known as yarrow, is especially adapted to the relief of morbid fluxes. It is most useful in the hæmorrhages of the weak when the flow each month is profuse, sometimes wholly sanguineous, sometimes partly leucorrhœal—the condition being likewise one of marked atony and the debilitating discharges accompanied by severe backache and not unfrequently by migraine.—*Medical Gleaner.*

Rheumatism and Tonsilitis.—I employ guaiac resin in these cases, but chiefly as a purgative. It is a nasty mixture, but my patients like it—at least the effects thereof. Give ten grains of the resin incorporated with sixty grains of honey, which dose may be gradually increased. It may be well to remember that guaiac sometimes produces a well marked rash.—Murrell.

Gonorrhœa, Oil of Cedar-wood in.—Pure volatile oil of cedar-wood will be found an excellent substitute for santal-wood oil in this malady.—Gemy *(Pharmaceutische Centralblatt.)*

Passiflora Tincture.—I order the root of passiflora dug when the plant is in full bloom and the fruit forming. The root, vine, leaves, flowers, etc., are dried in the shade so as to free them of water and permit convenient grinding in a mill into coarse particles. This ground matter is packed into a stone jar holding three or four gallons; after the jar is full of the root, well packed in, alcohol is poured on to fill completely; from day to day as the root absorbs the alcohol, more is added. Maceration is allowed to continue from three to six or eight weeks, according to the temperature—the shorter time for summer months. The tincture is then poured off, and the magma put into a powerful press and all remaining fluid pressed out; if the pressing is thorough, the magma is as dry almost as dust; all the fluid is then mixed and filtered. The tincture thus obtained "is a gem of the purest water." Some prefer to make the tincture from root dug after the fruit has ripened, but I do not think it is as strong and active.—JOSEPH ADOLPHUS *(American Medical Journal.)*

Bed-sores.—If the nurse is competent this painful complication will rarely require treatment. It is advisable to rub the parts upon which the patient rests with alcohol, and daily sponging of the entire body with warm water and then with alcohol will add greatly to comfort. Should a suspicious spot of redness present, remove the pressure therefrom by an air-cushion, and prevent the folds of linen pressing patient. Dry dressings are preferable to moist for bed-sores, and oxide of zinc in powder or ointment is one of the most valuable remedies; acetate of aluminum has also a very beneficial effect. At times considerable loss of substance is found, giving rise to a very foul odor; in these cases a charcoal poultice acts remarkably well.—ROTCH *(American Medical Review.)*

Dyspepsia, Functional Chronic.—The first rule is to eat slowly, masticate thoroughly, and insalivate completely:—Three things which are by no means always the same. Next, is to take solids and liquids separately, the latter in the shape of hot water on rising in the morning, and again about four or five in the afternoon, and at night before going to bed. When these do not suffice to remove the dyspepsia, the patient must take his farinaceous and proteid foods at different meals alternately,—a farinaceous meal at breakfast-time and again at five o'clock, and meat or fish meals at mid-day and at eight o'clock. In some cases it will be found advantageous to supplement the gastric juice with a little weak acid. A little alkali with calumba may be given before meals, or if there is gastric catarrh, some substance containing tannin, such as infusion of gentian, may be preferable. In cases with flabby tongue, perchloride of iron with quassia will probably be of more service. When there is gastric dilatation which will not yield to the measures above mentioned, it may be necessary to wash out the stomach in the morning or at night.—BRUNTON *(The Clinical Journal,* London.)

Benzyl Benzoate.—The principle active constituent of Peru balsam is benzyl benzoate and this body also forms the greater part of what is known as cinnamein, a mixed product said to be chiefly benzyl cinnamate. Benzyl benzoate is a colorless oil, that is now produced synthetically; and the artificial product appears equally effective in relieving scabies as that obtained from Peru balsam; moreover, it is less irritating to the skin, owing to the absence of free acids, and has the advantage of being odorless.—ERDMANN.

Leprosy, New Treatment of.—I have treated two cases of leprosy by means of hypodermatic injections of corrosive sublimate. This had previously been accidentally given to a case supposed to be one of syphillis, the true nature of which was revealed after the patient had been greatly benefited. The dose given was one-fifth of a grain injected into the buttocks. I believe mercuric chloride is worthy of further trial, as the improvement was very well marked in each case. —CROCKER *(The Lancet,* London.)

Uterine Prolapse.—This can be successfully treated with solution subsulphate of iron, well thrown up to the cervix two or three times a day: If parts become sore, use less frequently. Tincture nux vomica and tincture helonias, three times daily will prove beneficial adjuncts.—ROTHROCK.

Splenitis.—Make a plaster of diachylon 300, calomel 100, and castor oil thirty parts, and apply over the region of the spleen, renewing every eight days as long as necessary.—QUINQUAND.

Pneumonia.—The best possible cure for pneumonia is the ounce of prevention. Nasal obstruction and enlarged tonsils should receive immediate attention and radical treatment when necessary.—The nose has within its channels elements for clearing the air of foreign particles and warming it for the lungs. Whoever breathes through the mouth invites pneumonia. It is of the greatest importance that every inch of lung tissue should be in a relatively perfect condition. The sum of all the little spaces where air meets the blood is equal to the enormous area of 150 square yards. Each breath may be bringing in from the external atmosphere all manner of deleterious material, seeking some weak spot to gain a foothold. This weak place cannot exist without danger to health. The entire blood current comes to the lungs to obtain from the outside world the life-giving principle. This 150 square yards of tissue requires a supply of pure oxygen over a thousand times every hour. When children play, race, and romp, the lungs are filled in every part, and this very exercise of filling them strengthens their substance. Brisk walking, with deep inspirations and the mouth closed, helps sweep out the products of waste. Everything that expands the chest, as tennis, bowling, rowing, fencing, etc., is an antidote to possible pneumonia. Singing and reading aloud are admirable lung exercises. Sweeping, dusting, and the domestic process known as "cleaning up," are gymnastics within the reach of every one and have marked effect upon chest expansion. Indian clubs, dumb-bells, beanbags, games with balls and graces, of necessity bring about a more thorough elimination of waste products and the introduction of a larger supply of oxygen and ozone. The "ounce of prevention" in this particular case is a compound of common sense, fresh air, and exercise, especially exercise of the upper extremities.—Bryson.

Malaria, Quinine in.—As a preventive the drug will not do for those who are compelled to live indefinitely in a malarial climate, since by habituation it becomes a vasomotor poison:

It acts as a specific in malarial fevers characterized by intermissions or well-marked remissions, but fails in the continued forms—those with typhoid-like symptoms; also in the malarias without temperature, and the cachexias and anæmias of malarial origin:

Warburg's tincture has an action not yet understood, by which the system is put in condition to benefit by quinine:

Quinine should never be used in hæmoglobinuria, or subsequently given to one who has suffered from it, as it is liable to bring about a recurrence of the condition:

Only those living in regions of severe malarial disease can become competent to settle these questions pro or con.—Van Marter *(Texas Courier-Record of Medicine.)*

Pure Water Harmful.—Distilled water, or chemically pure water, is harmful, even poisonous, when introduced into the digestive tract. The addition of salt to enemas, and water used for lavage of the stomach, has become a general practice because of the knowledge that otherwise the delicate cells of the epithelial lining are apt to break down, as do the blood corpuscles, in pure water: For the same reason, "physiologic" salt solution is employed in nasal irrigation. The destruction of these cells is due to the abnormal endosmotic entrance of watery fluid, and consequent gorging and rupture, because of the unequal specific gravities of the interior and exterior fluids. Hence, when distilled,-ice-, or boiled water are used as beverages, under a mistaken idea of their greater purity and wholesomeness, the unavoidable consequence is peptic disturbances eventuating in gastro-intestinal catarrh. A spring at Gastein, Germany, has from time immemorial borne the name of *giftbrunnen*, i. e., "poison spring," the only successful charge brought against its waters being that they are unusually free from mineral constituents.—Koppe *(Munchiner Medicinische Wochenschrift.)*

The Wakamba Arrow Poison.—From the arrow poison, employed by the Wakamba tribe of German East Africa, has been isolated an extremely toxic glucoside, resembling ouabain in its action on the heart. The formula of the substance is found to be $C^{29}H^{46}O^{13}$. In the anhydrous state, it crystallizes in needles melting at 182°—184° C. It also forms larger plates, containing water of crystallization; these melt at 93°—94° C. It is insoluble in ether, acetic ether, chloroform and benzene; slightly soluble in cold alcohol or water, more so on warming; the solution is lævogyrate. The pure substance does not reduce Fehling's solution, but on hydrolyzing, with mineral acids a

yellow, amorphous, non-poisonous body separates from the aqueous filtrate which has marked reducing powers, gives an amorphous glucosazone, and ferments with yeast. The original substance dissolves in concentrated sulphuric acid with a reddish-brown color and a green fluorescence.—BRIEGER *(Deutsche Medizinal-Zeitung.)*

Puerperal Eclampsia.—In a case where convulsions occurred two weeks before the expected time of labor, I gave fourteen drops of tincture veratrum viride at once, and five drops every two hours thereafter until complete relief was had. Also employed enemas of potassium bromide and chloral hydrate, in large doses.

Labor came on the third day and was uneventful; the child proved to be only of the eighth month, and feeble. I have great and abiding faith in veratrum in these cases.—PARKER *(Atlanta Medical and Surgical Journal.)*

The Cigarette Habit.—It has not been shown that cigarette smoking is specially injurious to a healthy adult. Like many other things, if there is a constitutional taint it may be developed when tobacco is used to excess; but it is not to be conceived that it is essentially more injurious in cigarettes than in any other form.—*New York Medical Journal.*

A Practical Surgical Procedure.—In the case of a young lady who had run a needle into her right heel, in which it was broken off, the end being buried, she was made to wear a large, thick, corn-plaster, with a little damp cotton wool in the centre, and to tread freely on the heel. The end of the needle protruded within a week, and was easily removed.—STEEL.

Pleurodynia.—When this affection is accompanied by pain in the anterior mediastinum, gaultheria is an efficient remedy; but when the pleurodynia is associated with tuberculosis, guaiac rarely fails to afford relief.—*The Clinique.*

Tuberculosis, Urea in.—Nine cases of tuberculosis were treated with urea, twenty grains four times daily, with excellent results. Urea acts as a kind of antitoxin. —HARPER *(British Medical Journal.)*

Plaster Bandage.—To apply in fractures below the knee, have a stocking put on; this gives a clean, smooth inside surface. Apply circularly, first up then down, so as to leave a thin streak in front,—to be more easily cut. So applied the bandage fits like a glove, and leaves nothing to be desired to hold the fragments in place.—DODDS.

Benzoinated Lard.—The finest form of this emollient preparation is had by exhausting the benzoin with ether and adding to the filtered solution castor oil. Fifteen grammes of benzoin, thus prepared, may be mixed with one kilo of purified lard, and twenty grammes of white wax may also be incorporated if deemed necessary.—*Western Druggist.*

Codeine.—This drug is most effective in its minimum dose, and while as much as eight or ten grains can be used in twenty-four hours, by giving in one-eighth or one-fourth grain doses, not more than two or three grains at the utmost are needed, and in an average case a grain is sufficient.—*Wisconsin Medical Recorder.*

Rheumatism, Acute.—Acetanilid is not remedial; its persistent use either tends to fatality or to inducing cardiac complications that prevent perfect recovery.—SIMMONS *(Medical Gleaner.)*

Coryza, Infantile.—

Such may commonly be aborted by insufflating a small portion of the following:

Cocaine muriate	12 grains
Menthol	120 "
Milk sugar	120 "
Boracic acid	100 "

—Journal de Médicine de Paris.

Hepatic Disturbance, Functional.—

Rhubarb, powd.	8 grains
Sodium bicarb.	20 grains
Ipecac, powd.	1 grain
Nux vomica, tinct.	20 minims
Peppermint water, to make	4 ounces

A teaspoonful before each meal.

—LOCKWOOD.

Potassium Iodide in Prescription.—

Criticism is asked upon the following prescription:

Potassium iodide ..	2	drachms
Spirit nitrous ether.	1	ounce
Tinct. iron chloride.	1½	drachms
Gentian, comp. tinc.	12	drachms
Glycerin	4	drachms
Water, to make	4	ounces

Several reactions occur in compounding, each depending somewhat upon the order of procedure. The reaction most noticeable is that between potassium iodide and tincture of iron, free iodine being liberated.

Such a mixture is dangerous and should not be dispensed. Another reaction which always occurs is that between potassium iodide and spirit nitrous ether: In this case the precription cannot be dispensed without such reaction taking place, iodine and nitrous oxide being liberated. Other criticisms might be made upon the probable changes likely to occur as that between the tincture of iron and the compound tincture of gentian. But enough has been said to show that the combination is a very bad one as regards chemical incompatibility.—*Pharmaceutical Era.*

Diabetes Mellitus.—

In thin subjects, with faulty assimilation, the following will be found useful:

(1) Arsenous acid	40	grains
Opium, powd.	80	grains
Ammonium muriate	300	grains

Make into 320 pills and take one after each meal.

—MARCUS.

(2) Opium powd.	12	grains
Inspissated ox-gall.	50	grains

Make 24 pills and take one thrice daily.

—BETHUNE.

(3) Codeine sulphate ...	6	grains
Nux vomica ext.	3	grains

Divide into 24 pills and take one three times daily, gradually increasing the dose.

—WILSON.

Furuncles, To Abort.—

Lime chloride	2	ounces
Camphor water	4	ounces
Tincture myrrh	2	drachms
Creosote, beechwood .	20	minims
Glycerin	1	ounce

Apply constantly in form of wet compress.

This will positively remove the most excruciating pain in three or four hours, and will render any form of surgical treatment unnecessary if begun in time, and is constantly and faithfully applied.—BERTRAN.

Antiseptic Mouth Wash and Dentifrice.—

A pleasant liquid fulfilling both these conditions, and available in many forms of aphthous stomatitis, may be made as follows:

Salol	375 grains
Saccharin	½ grain
Peppermint oil, true ..	75 minims
Oil cloves, true	15 minims
Oil caraway, true	¾ minim
Rectified spirit, to make	32 ounces

—*Scientific American.*

Endocarditis.—

Digitalis tinct.	1 ounce
Water and syrup, to make	6 ounces

A teaspoonful to a teaspoonful-and-one-ha every four hours.

This is remedial when the heart's actio is markedly irregular, but under other conditions better results will be obtained fro drop doses of tincture veratrum viride ever hour.—FOXTON.

Nasal Effusion From Catarrh.—

Bismuth sub-carb.	60 grains
Talc, powd.	60 grains
Alum exc., powd.	30 grains
Morphine acetate	1 grain
Gum Arabic, powd.	60 grains

Incorporate the ingredients as a snuf and use a pinch three or four times daily, as required.—SAJOUS.

Tubercular Enteritis.—

While the following is not curative, grea relief may be had from its employment:

Iodoform	30 grains
Salol	30 grains
Tannic acid	60 grains

In 12 capsules: One three times daily.

—SMITH.

Palatable Castor Oil.—

A palatable emulsion may be prepared as follows:

Powdered gum Arabic	4 drachms
Castor oil	8 drachms
Saccharin elixir	10 minims
Oil bitter almonds ...	1 minim
Oil cloves	2 minims
Water, to make	2 ounces

Dissolve the gum in sufficient water and add the oil gradually; lastly add the flavoring.

—*Hospital Gazette* (London).

Whooping-Cough.—

Belladonna, tincture ..	2 drachms
Phenacetin	1 drachm
Spirit (Jamaica or Santa Cruz rum)	3 drachms
Chestnut leaves, fluid extract	12 drachms

Ten drops every two to six hours for an infant of one year.

A child of ten years may receive as much as a teaspoonful of the mixture.—LANCASTER.

Anti-Neuralgic Powder.—

Guarana, powdered ...	5 grains
Quinine muriate	1½ grains
Sodium bicarbonate ..	5 grains
Sodium salicylate	5 grains

For a single dose.

—*La Scalpel.*

Enuresis.—

Iron citrate	160 grs.
Syrup lime-lactophosphate.	2 ozs.
Syrup cascara, aromatic...	2 ozs.

A teaspoonful after dinner.

Sumach, fluid ext.	320 min.
Syrup	2 ozs.

A teaspoonful at bed time.

Continue treatment for several months.—CASSIDY *(Canada Journal of Medicine.)*

Organic Cephalalgia.—There are very few headaches that give such overwhelming agony as those of organic character. These are usually, if not invariably, steady and violent.—If the pulse is also irregular it is confirmatory of the diagnosis. I know of no way in which relief can be more certainly obtained than by the use of potassium iodide.—DOUGLAS *(Public Health Journal.)*

Croup.—One-tenth grain calcium sulphide, given hourly, is said to be very valuable in croup, and to relieve even the worst cases.—*Medical Annual.*

Medical Progress.

Diseases Indicated by the Tongue.—

The condition of the tongue varies considerably with the character of the disease or derangement the person is afflicted with. In certain affections the organ presents a white, moist appearance, due to the character of the epithelium on its surface, and spread over this epithelium are multitudes of bacteria, fungi, and the debris of food. This state is generally present in acute rheumatism, and it is interesting to observe how improvement in the condition of the tongue keeps pace with satisfactory changes in the patient.

In anæmic cases that suffer from digestive disturbances, the tongue is flabby and somewhat paler than normal, the vessels being imperfectly filled with blood, and the latter deficient in coloring matter; the organ is also larger than normal, swollen, and its edges marked with indentations of the teeth.

In chronic rheumatism the tongue is frequently white and covered with a thick fur; it is more moist than normal, and its epithelium covered with fungi. In this coating, numerous low organisms grow and multiply with amazing rapidity, and various organic matters collect, producing decomposition in the soft spongy mass that is formed in such great abundance.

In marked contrast is the bright red tongue observed in certain fevers, notably scarlatina—this is commonly known as the "strawberry tongue." Here the fungi form papillæ are swollen and the blood-vessels greatly distended, presenting the characteristic appearance of a ripe California strawberry. This redness persists for considerable time, or until the new cells have accumulated in sufficient numbers to prevent the red blood from being distinctly seen in the vessels underneath the surface.

The tongue takes on another character, one entirely different from those just described, but as such is seldom observed in slight derangements, it may be dismissed in a few words: I refer to that dark brown or almost black appearance observed in typhoid fever and other low but severe forms of disease. In feverish conditions the moisture about the tongue dries up, and the mouth becomes very dry and hot: It is no longer bathed in

its natural secretions,—mucus ceases to be formed, and the saliva is so diminished in amount as to render the act of swallowing very difficult. As the severity of the fever abates, the tongue begins to look clean at its edges, and as convalescence advances the entire old covering is cast off, and new epithelium takes its place.

A condition of the tongue frequently observed in persons who suffer from weak digestion is characterized by chronic fissures, generally deep and very irregular in their arrangement. The organ is pale, moist, and from time to time covered with a white fur arranged in irregular patches; the papillæ at the edges of the cracks occasionally become enlarged, sore and tender, so that the eating of solid food is an exceedingly painful procedure: finally, the fissures keep on increasing in width and depth, almost exposing to the air the delicate nerve fibres of the part. Sufferers from this form of tongue require to be very careful as to the character of food ingested, as the digestive organs are very easily deranged, and they bear purgatives but poorly. Associated with these are also frequently observed similar changes in the mucous membrane of the mouth, palate, fauces, and throat: and pathological changes affecting the mouth or palate not infrequently extend into the larynx and trachea, or even into the bronchial tubes,—or may also pass up to the Eustachian tube, producing deafness, or entering the nose give rise to a very unpleasant condition termed "chronic nasal catarrh." Again, on looking into the posterior portion of the mouth it will be observed that the mucous membrane is not only redder than normal, but glazed and dry in patches,—an important pathological change has taken place in the sensitiveness of the delicate mucous membrane of the soft palate; reflex action is not so readily provoked as in health, and contraction of the pharyngeal muscles does not take place so freely, while the sensitiveness of the surface is somewhat numbed. — SULLIVAN *(Public Health Journal.)*

Operations on Diabetics.—

It is a generally accepted view that surgical operations on diabetic subjects are attended by so much more than ordinary risk that, under ordinary circumstances, they are best avoided. In the abstract, no doubt, this view is correct, but there are circumstances and cases in which the objection does not hold good. No surgeon would refuse to operate, for instance, on a diabetic subject who happened to have a strangulated hernia or other form of acute intestinal obstruction. In general, when non-intervention would entail inevitable death, it is the surgeon's duty to shut his eyes to the diabetic complication and to operate. Apart from these operations of urgency the advance of medical science renders it possible to operate on diabetic subjects with a fair prospect of a happy issue, provided that proper precautions are taken to restrict the quantity of sugar in the system. This question recently came up for discussion at the Royal Medical and Chirurgical Society, when Mr. Barker related two very successful cases of intestinal surgery in diabetic subjects, showing that even under the most unfavorable circumstances surgical intervention in such patients is not necessarily a forlorn hope. From the point of view of surgical risk diabetics may be divided into two categories:

First.—The presence of sugar in the urine is a symptom, the significance whereof varies greatly according to the age of the patient; in an elderly person of full habit it hardly constitutes a contraindication, whereas in a young person diabetes runs a much more rapid and fatal course:

Second.—There are other cases, however, cases of true diabetes, in which sugar is only in part derived from the carbo-hydrates taken as food, a variable proportion thereof being of tissue disintegration. In these, diet, however strict, does not remove the sugar from the urine, and the gravity of the prognosis is proportionately grave.

Looking at the question from another point of view, diabetics may be divided into two classes, one in which the sugar is of purely alimentary origin, in which a proper supervision of the diet will suffice to reduce the sugar in the urine to negligible proportions. A glycosuric person in whom the excretion of sugar can thus be controlled may, for surgical purposes, be regarded as one of average resistance and dealt with accordingly.

Obviously it is for the surgeon to ascertain, as far as possible, into which category his diabetic patients fall, because in the *second* class even the most trifling surgical operation may be attended by the most seri-

ous risks to life. The ease with which trifling traumatisms determine grave constitutional disturbance in diabetic subjects is extraordinary, as every practitioner knows to his cost. Unfortunately, the distinction between the two classes does not work out as satisfactorily in practice as it does in theory. In many—possibly the majority,—instances the cases are on the borderland, and though diet does to some extent diminish the excretion of sugar, there still remains enough to inspire anxiety as to the possible results of surgical intervention. In these cases prudence is the best counsellor, and as a general rule no operation except of the imperative kind should be performed. While medical science enables us to place certain diabetics in a comparatively satisfactory state for operation, it does not divest the presence of sugar of its fell significance, especially when observation shows that the sugar is not exclusively of alimentary origin.—*Medical Press and Circular.*

New Nasal Splint.—

This dilating nasal splint is to be used in the after-treatment of operated deflected septums, and presents the following favorable features:

The drainage permitted by the outspreading halves of this instrument when *in situ*, is maximum, and such a thing as "clogging" never occurs. Breathing through the previously stenosed nostril is at once established, and the satisfactory effect is immediately in evidence:.

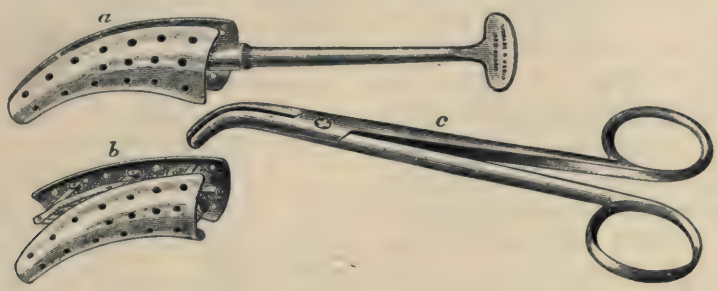
In the removal of the splint for the daily cleansing process, a few turns of the key converts it from size *b* to *a*, as indicated in the cut, and its removal and subsequent introduction are effected without the usual pain accompanying this manœuvre:

The distal as well as the proximal end of the splint dilates equally; this is of the utmost importance, especially when the deflection is situated somewhat posteriorly:

Drainage being good, irrigation with the splint in position (and proper precaution as to the forward position of the head, instructions not to swallow during the injection of the fluid, and by imparting a moderate velocity to the inflowing medicament), can be successfully carried out. There is no need of its daily removal, and I leave the splint in position for five days, replacing it again for a like period, and removing it entirely at the end of that time. If, in its first introduction, too much or too little dilation of the splint has been effected, a few turns of the key either way, will bring about the desired effect:

Being of metal, these splints offer the minimum of opportunity for sepsis:

The splints are in three sizes, and are also made without perforations. Instead



of the side plates being concavo-convex, I have them also made perfectly flat.

The key of the splint when in position acts also as introducer. The forceps grasp the splint when in position, thus preventing any slipping or twisting. It is my custom to dip in sterilized olive oil before introduction.—Alter (*Medical Record.*)

"Krymotherapy" in Phthisis.—

Apply, during half an hour every morning, to the epigastric and hepatic regions, a bag containing about two kilogrammes of solid carbonic acid, the skin being protected by a thick layer of cotton wool, and maintain therewith a temperature of about 13° Fhr. A second application may precede the evening meal.

Those who first experimented with extremely low temperatures, imagined that thereby the diathermancy of even bad conductors of heat is so much increased that the rays traverse them as swiftly as light through glass. Pictet, Chasset, and

Cordes treated their phthisis cases by means of "frigoric pits," but we prefer the above method, and think that some organs, notably the liver, are thereby cooled more than others. The economy as a whole has to resist the cooling process, and the result is an increase of nutritive changes—a burning up of old- and absorption of new materials,—along with stimulation of appetite corresponding to the increased digestive vigor.—LETULLE and RIBARD *(La Pressé Médicalé.)*

[If nothing else can be said for the foregoing, it at least creates an artificial demand for fats in the patient so treated, whereby the consumption of carbo-hydrates is materially enhanced: But there are also to be considered the dangers that may accrue to the sudden change from high to low temperature, and *vice versa,* including the possibilities of superficial *frost-gangrene.* If, as Pictet claims, the circulation is all sufficient to equalize this, than the therapeutic value of the method is, manifestly, practically *nil.* It is particularly unfortunate in one sense that the nerve changes induced by consumption lead to improvement by so-called "suggestion," continuing for a greater or less period with every new method instituted.—Ed.]

Artificial Glycosuria in Animals.—

A bitch of a very affectionate, timid, and jealous disposition, four years of age, when imprisoned alone all day whined continually, and her cries became terrible when she saw other dogs enjoying liberty. During three days of imprisonment the urine gave no reaction, but on the evening of the fourth day it contained 5.55 per 1000 of sugar. The glycosuria persisted during the captivity. The day after she was set at liberty the sugar disappeared. The experiment was repeated six times upon this dog with the same result,—that is at the end of four, three, or even two days of imprisonment, glycosuria appeared, but soon vanished when she was set free to join her companions. The quantity of sugar increased to 6.66, 8.88, and, at another time, to 25. per 1000,—a high proportion in comparison with that generally found in animals suffering from diabetes. Glycosuria did not make its appearance when the animal was imprisoned with a companion. The same experiments made with an apathetic dog were without result.—GIBIER *(Le Bulletin Médical.)*

Ascites, Significance of.—

The appearance of abdominal or general dropsy is not necessarily indicative of malignant disease. When benign tumors persist for a long time they often induce a dropsical condition; and tuberculosis of the peritoneum is usually accompanied by this symptom. Dropsy is prone to occur in corpulent women in whom the presence of tuberculosis may not be suspected, and as a rule the absence of a distinct tumor, taken in connection with ascites means, *tuberculosis.* Cases in which malignant disease of the ovaries led to a diagnosis of ascites, have frequently brought patients to the surgeon, when the real facts were discovered. As a rule, dropsy can not be deemed in any sense pathognomonic of malignancy.—GRANDIN (before the Harvard Medical Society, Boston.)

Morphine in Urine.—

This alkaloid, or its salts, may be easily detected in the urine by the following process: Of the suspected urine, 600 cubic-centimetres are acidulated with hydrochloric acid, evaporated to one-sixth the bulk, and the residue set aside for twelve hours, when it is made alkaline with sodium carbonate, and again set aside for a like period. Next it is filtered, the precipitate washed with alkaline water, dried, powdered, extracted with lukewarm alcohol, and the solution again filtered and evaporated. Finally the residue is taken up with diluted sulphuric acid, and the usual tests for morphine applied.—*Pharmaceutische Post.*

Warts, Cause of.—

Having noticed the formation of a wart from the accidental introduction of a small spicule of glass in my own person, I am inclined to believe, when no bacteria are present, that these growths are due to mechanical irritation applied to the papillæ of the corium by the entrance of a foreign body, which leads to swelling of the tissues with a localized and increased formation of epidermis.—Note, that these excrescences are seen only upon the exposed portions of the body.—SCHAAL *(Archiv für Dermatologie und Syphilis.)*

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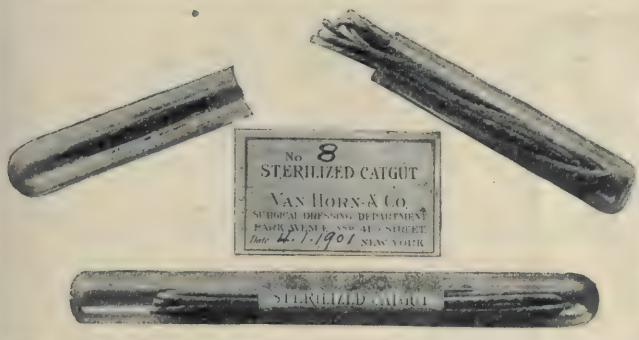

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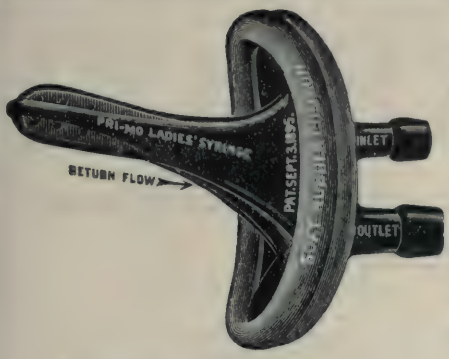

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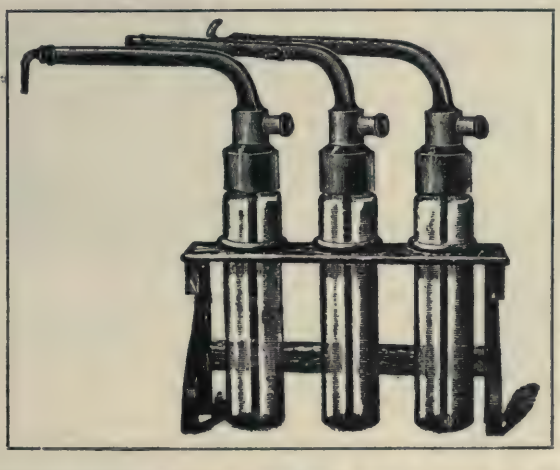

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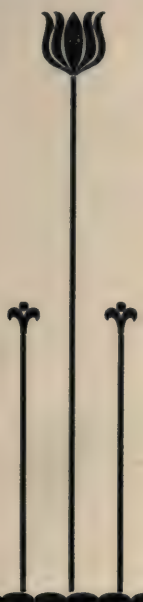
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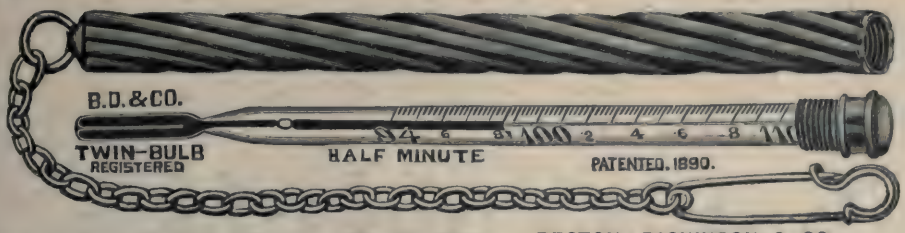

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